SIXTY-SECOND ANNUAL REPORT

OF THE

DIRECTOR OF PUBLIC HEALTH

OF THE

UNITED PROVINCES OF AGRA AND OUDH

FOR THE YEAR ENDING DECEMBER 31, 1929

AND THE

THIRTY-FIFTH REPORT

OF THE

SUPDG. ENGINEER, PUBLIC HEALTH DEPARTMENT,

FOR THE YEAR ENDING MARCH 31, 1930

ALLAHABAD:

SUPERINTENDENT, GOVERNMENT PRESS, UNITED PROVINCES

1930

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1930

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Erratum slip to the Annual Report of the Director of Public Health, United Provinces, for 1929.

Page.	*For—*	*Read—*	Remarks.
1 of the table of contents.	..	8	In the 2nd line from the bottom under the heading "Pages".
4 of the table of contents.	*ib.*	89 & 90	In the 7th line from the top under the heading "Pages."
Ditto	*ib.*	90 & 91	In the 9th line from the top under the heading "Pages".
6 of the report.	153 48	153·48	In the 5th line from the top.
16 ditto	1 71	1·71	In the 22nd line from the top.
17 ditto	diarrhoe	diarrhoea	In the 3rd line of the marginal heading of para 17.
79 ditto	,228	1,228	In the 5th column against "Total for 1928".
83 ditto	disposal	dispersal.	In the 25th line from the top.
86 ditto	64	61	In the last column of the table against "Lung diseases other than tuberculosis.
4A of Appendix A	Trust Committee	Trust Enquiry Committee, 1929,	In the 16th line from the top.
16A of Appendix C	Salerupur	Salempur	3rd village under "Saharanpur".
17A ditto	Dipatepur	Dipakpur	2nd village under Jaunpur.
18A ditto	12	19	In the last column of the statement against "Adampur Naubasta".
Ditto	7	nil	In the last column of the statement against "Saspan".
19A ditto	Singhpur-Pursa	Singhpur-Purwa	3rd village under "Rae Bareli".
17B of statistical statements.	80·,23	..	In sub-column "Male" under "other classes" against Shahjahanpur district.
18B of statistical statements.	13·00	13,060	In column 4, sub-column "Female" against "Bara Banki".
28B of statistical statements.	230 ection	23 of section	At the top.
40B of statistical statements.	733	723	Under January against "Ballia".
41B of statistical statements.	8 1	891	Under June against Mirzapur.
41B of statistical statements.	1,18	1,183	Under September against "Pilibhit".
41B of statistical statements.	3,12	3,123	In column 6, sub-column "Female" against "Fatehpur".
50B of statistical statements.	829,765	829,760	In the 3rd column against "Etah".
55B of statistical statements.	5832	5825	Under heading "total cost" against "Jalaun".
59B of statistical statements.	tonments.	Cantonments	Last word of the 2nd footnote.

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TABLE OF CONTENTS.

Sections I, II, III and IV—Omitted.

Section V.

GENERAL POPULATION—VITAL STATISTICS.

	PAGES.
Population of the United Provinces on which birth and death rates have been calculated and the area in square miles	1
Registration of vital statistics	*ib.*
The birth and death rates of 1929 compared with those of 1928 and the quinquennial period	1 & 2
The birth and death rates and infantile mortality of the United Provinces compared with those of other provinces	2
Births and birth-rates	*ib.*
Proportion of male to female births	*ib.*
The different birth-rates considered	*ib.*
Excess of births over deaths	*ib.*
Births and birth-rates in municipalities	2 & 3
Excess of births over deaths in municipalities	3
Births and birth-rates in notified areas..	*ib.*
Excess of births over deaths in notified areas	*ib.*
Deaths and death-rates	*ib.*
Incidence of mortality in districts including towns	*ib.*
Mortality in municipalities	*ib.*
Mortality in notified areas	4
Mortality according to season	*ib.*
Mortality by sexes at different age periods	*ib.*
Infantile mortality	4 & 5
Infantile mortality in districts	5
Infantile mortality in municipalities	5 & 6
Infantile mortality in notified areas	6
Infantile mortality in urban and rural areas	*ib.*
Seasonal infantile mortality	*ib.*
Mortality according to class	*ib.*
Urban and rural mortality	*ib.*
Still-births in districts	*ib.*
Verification of causes of deaths	6 & 7
Registration as tested by Assistant Directors of Public Health ..	7
Registration as tested by the District Health staff..	*ib.*
Registration as tested by local authorities	*ib.*
Registration as tested by the vaccination staff	*ib.*
Neglect to comply with registration rules	8
Average dates of submission of statistical returns	*ib.*

Section VI.

HISTORY OF THE CHIEF DISEASES.

	Pages.
Death-rates from different causes	9
Deaths and death-rates from cholera	*ib.*
Cholera in districts and towns	9—13
Urban and rural mortality from cholera	13
Deaths and death-rates from small-pox in districts and towns ..	14
Urban and rural mortality from small-pox	*ib.*
Small-pox hospitals	14 & 15
Deaths and death-rates from plague	16
Plague in districts..	*ib.*
Plague in towns	*ib.*
Urban and rural mortality from plague..	*ib.*
Deaths and death-rates from fevers in districts and towns	*ib.*
Urban and rural mortality from fevers	*ib.*
Relapsing fever, enteric fever, and kala azar	17
Influenza	*ib.*
Tuberculosis	*ib.*
Deaths and death-rates from dysentery and diarrhœa in districts and towns	*ib.*
Urban and rural mortality from dysentery and diarrhœa	*ib.*
Deaths and death-rates from respiratory diseases in districts and towns..	18
Urban and rural mortality from respiratory diseases	*ib.*
Deaths from several minor causes	*ib.*
Deaths and death-rates under the heading "all other causes" ..	*ib.*
Deaths from child-birth	*ib.*
Venereal diseases	*ib.*
Accuracy of the returns	19

Section VII.

GENERAL HISTORY OF VACCINATION,

Period covered	20
Charge of the department	*ib.*
Constitution and strength of the department	*ib.*
Expenditure on vaccination	*ib.*
Average cost of each successful case of vaccination..	20 & 21
General operations	21
Successful primary vaccinations in different districts	21 & 22
Successful vaccination and degree of protection afforded	22
Vaccination in proportion to births and according to age	*ib.*
Mortality from small-pox	*ib.*
Diagram	*ib.*
Vaccination in municipalities	22 & 23
Vaccination in cantonments	23
Vaccination in notified areas..	*ib.*
Vaccination of school children	*ib.*

PAGES.

Application of the Vaccination Act .. .. 23 & 24
Compulsory vaccination in rural areas 24
General results of inspection .. .. 24 & 25
Occurrence of cases of encephalitis following vaccination 25
Provincial Bovine Lymph Dépôt, Patwa Dangar (district Naini Tal) .. 25—29
District annual vaccination returns 29
General remarks .. .. *ib*

Section VIII—Omitted.

Section IX.

MUNICIPAL WATER-SUPPLIES.

Benares Water-supply 30
Lucknow Water-supply .. .. *ib.*
Cawnpore Water-supply .. .. 30 & 31
Agra Water-supply 31
Allahabad Water-supply .. .. *ib.*
Mirzapur Water-supply .. .. *ib.*
Muttra Water-supply .. .. *ib.*
Meerut Water-supply .. .. *ib.*
Dehra Dun Water-supply 32
Mussoorie Water-supply .. .. *ib.*
Naini Tal Water-supply .. .. *ib.*
Hardwar Water-supply .. .. *ib.*
Unao Water-supply .. .. 32 & 33
Fyzabad Water-supply 33
Jhansi water supply .. .. *ib.*
Municipal Laboratories .. .. *ib.*

Section X.

PERSONAL PROCEEDINGS, PUBLIC HEALTH SERVICES, AND GENERAL REMARKS.

Personal proceedings.. 34
Assistant Directors of Public Health .. .. 34—37
The Provincial Hygiene Institute .. .. 37—41
Malaria Branch .. .. 41—51
Epidemiology Branch .. .. 51—56
Hygiene Publicity Bureau .. .. 56—58
District Health Service .. .. 58—67
Expenditure by district boards on public health 67
Medical officers of health in municipalities .. .. .. 67 & 68
District medical officers of health and notified areas.. 68
Public Analyst and his office .. .. 68—70
Inadequacy of fines imposed by honorary magistrates in cases instituted by medical officers of health 70
Maternity and Child Welfare work .. .. 70—80
Baby Weeks 80
Sanitary progress .. .. *ib.*
The Provincial Board of Public Health 81
Improvement of water-supplies in rural areas .. .. .. *ib.*

PAGES.

Leper asylums 82
Fairs .. .. 82—85
Inspection of schools and the medical examination of scholars .. .. 85—88
Adult Education Co-operative Societies .. .. 88—89
Public Health essays 89
Soakage pits in Government buildings .. .. *ib.*
Budget grants for the department .. .. *ib.*
Visit of officers to the United Provinces 90
Famine .. .. *ib.*
Principal Meteorological and Weather conditions .. .. .. 91—92
Public Health Acts 92
Corruption in the public service .. .. *ib.*
Office .. .. 92—93

Thirty-fifth Annual Report of the Superintending Engineer, Public Health department, United Provinces of Agra and Oudh, for the year ending March 31, 1930 .. .. i—lxiv

APPENDICES TO THE REPORT OF THE DIRECTOR OF PUBLIC HEALTH, UNITED PROVINCES.

PAGES.

Appendix A.—Annual report of the Board of Public Health, United Provinces, for the financial year ending March 31, 1930 2A—14A

" B.—Statement showing expenditure incurred during 1929 out of the grants made by the Board of Public Health, United Provinces, for the improvement of rural sanitation in previous years 15A

" C.—Statement showing the protective effects of anti-plague inoculations in the United Provinces during the year 1929 .. .. 16A—19A

" D.—Summary of the work done during 1929 by the public health personnel in districts where the district health service has been established .. .. .. 20A—21A

STATISTICAL STATEMENTS

(VITAL STATISTICS.)

Form no. I.—Births registered in the districts of the United Provinces during the year 1929 .. .. .. 2B & 3B

" II.—Births and deaths registered in the districts of the United Provinces during the year 1929 .. .. 4B & 5B

" III.—Deaths registered in the districts of the United Provinces during each month of the year 1929 .. 6B & 7B

" IV.—Deaths registered according to age in the districts of the United Provinces during the year 1929 .. 8B—11B

" V.—Deaths registered according to classes and sexes in the districts of the United Provinces during the year 1929 12B—17B

" VI.—Deaths from different causes and births registered in the towns (having a population of 10,000 and upwards) and districts (exclusive of such towns) of the United Provinces during the year 1929 .. .. 18B—26B

" VI(*a*).—Deaths registered from certain causes in the towns (having a population of 10,000 and upwards) and districts (exclusive of such towns) of the United Provinces during the year 1929 .. .. 27B—35B

" VII.—Deaths registered from cholera in the districts of the United Provinces during each month of the year 1929 36B & 37B

" VIII.—Deaths registered from small-pox in the districts of the United Provinces during each month of the year 1929 .. .. 38B & 39B

PAGES.

Form no. IX.—Deaths registered from fevers in the districts of the United Provinces during each month of the year 1929 .. .. 40B & 41B

" X.—Deaths registered from dysentery and diarrhœa in the districts of the United Provinces during each month of the year 1929 .. .. 42B & 43B

" XI.—Deaths registered from respiratory diseases in the districts of the United Provinces during each month of the year 1929 .. .. 44B & 45B

" XII.—Deaths registered from plague in the districts of the United Provinces during each month of the year 1929 .. .. 46B & 47B

STATISTICAL STATEMENTS AND APPENDICES.

(VACCINATION.)

Statement no. I.—Showing the particulars of vaccination in the United Provinces during the year 1929-30 .. 50B—53B

Statement no. II.—Showing the cost of the department in the United Provinces during the year 1929-30 .. .. 54B—57B

Statement no. IV.—Showing the number of persons primarily vaccinated and the number successfully vaccinated in the United Provinces for a series of ten years.. 59B—64B

Statement no. V.—Showing the particulars of vaccination verified by inspecting officers in the United Provinces during the year 1929-30 .. .. 65B—67B

Appendix A.—Showing the number and ratio of successful vaccinations and number and ratio of deaths from small-pox in each district of the United Provinces for a series of ten years .. .. .. 68B—71B

Appendix B.—Showing the number of vaccinations performed in the municipal towns of the United Provinces on children under one year of age during the year 1929-30 .. .. 72B & 73B

MAP OF THE

UNITED PROVINCES OF AGRA & OUDH

SHOWING

PUBLIC HEALTH ACTIVITIES

Scale 1″=32 Miles.

REFERENCES.

Districts with a District Medical Officer of Health

Municipalities with a 1st Class Medical Officer of Health

" " 2nd " " " "

" that should employ " " " but do not do so.

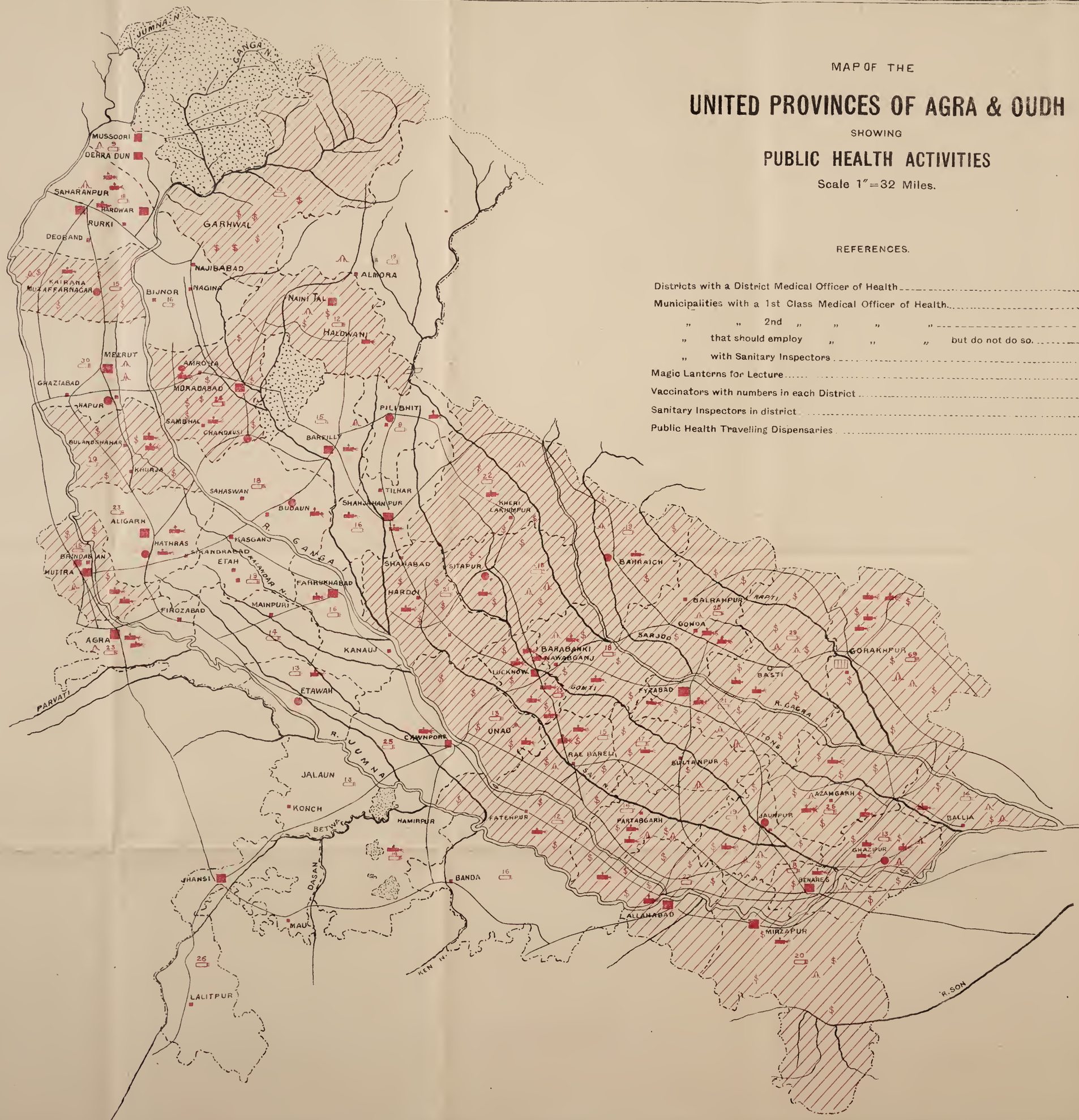
" with Sanitary Inspectors

Magic Lanterns for Lecture

Vaccinators with numbers in each District

Sanitary Inspectors in district

Public Health Travelling Dispensaries



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GOVERNMENT OF THE UNITED PROVINCES
DEPARTMENT OF PUBLIC HEALTH.

PROVINCIAL ORGANIZATION

BOARD OF PUBLIC HEALTH

It consists of 6 official and 9 non-official members and its duties are :—

(1) To serve as the adviser of Government ; to be the central and controlling authority in all matters of sanitation ; to initiate measures for the improvement of Public Health and to assist local authorities in every way in matters falling within its province.

(2) To deal with projects for sanitation undertaken by district or municipal boards, notified and town areas.

(3) To assit local bodies with grants-in-aid of sanitary works from the funds placed at its disposal by Government.

DIRECTOR OF PUBLIC HEALTH.

ADMINISTRATIVE RANGES I—III
Asstt. Dirs., Public Health, I—III Ranges

- Inspection of sanitation of municipalities, notified areas and town areas in their ranges.
- Measures for prevention of epidemics.
- Inspection of Vaccination.
- Advice to local bodies on Public Health matters
- The control and supervision of District Health staff, within the ranges and of Travelling Dispensaries.

MALARIA
A. D. P. H. (Malariology).

- Training of Public Health personnel in the control and prevention of malaria
- Malarial surveys of urban and rural areas and anti-malarial recommendations to local bodies.
- Supervision of anti-malarial works in urban and rural areas.
- Control of malaria epidemics.
- Control of malaria in big construction and mine camps.
- Malaria Research.

PROVINCIAL HYGIENE INSTITUTE.
A. D. P. H. (Provl. Hyg. Inst.).

1. Training and examination of Public Health personnel for :—
   (a) The Diploma and the Licence in Public Health.
   (b) Sanitary Inspectors' certificate.
   (c) Health Visitors' certificate.
2. Post-graduate courses for the I and II class Medical Officers of Health
3. Lectures and demonstrations in Hygiene and Vaccination to medical under-graduates and special lectures in Public Health to post-graduates
4. Examination of Medical Officers of Health in Provincial Municipal Law affecting sanitation.
5. Grade examination of the Medical Officers in charge Travelling Dispensaries
6. Examination for Chief Sanitary Inspectors' certificate.

Routine and special analytical work : —
1. Chemical.
2. Bacteriological Investigative work carried out on special problems which confront the Public Health Administrator in these provinces from time to time.

Production and Exhibition of Public Health Motion Pictures.

REGISTRATION OF VITAL STATISTICS
Superintendent General for U. P. Dir. of Public Health.

- Collection of vital statistics from District Mortuary Registrars, Civil Surgeons or M. O's. H.
- Classification and compilation of vital statistics.
- Publication of V. S. reports.

VACCINATION.
Suppt. Genl. for U. P. Dir. of Public Health.

- Government Bovine Lymph Depot, Patwa Dangar.
- Preparation and Distribution of Vaccination Lymph.

EPIDEMIOLOGY
A. D. P. H., Range II.

- Collection of reports of Epidemics and informing all concerned.
- Control of activities of the Travelling Dispensaries and Special Health Officers.
- Supply of Vaccines, Medicines, and Disinfectants for Epidemics.
- The augmentation of staff and financial help to municipalities and districts in severe epidemics where local resources are unduly taxed.

HYGIENE PUBLICITY BUREAU.
A. D. P. H. (H. P. B.)

Regular lectures and demonstrations in towns and districts by :—
1. Officers of the Central Bureau.
2. District M. O's. H.
3. Municipal M. O's. H.
4. Officers of the Provincial Medical and Subordinate Medical Services.
5. Travelling Dispensaries and Special Health Officers.

Special lectures and demonstrations at :
1. Fairs.
2. Baby Works.
3. Health Weeks.
4. Teachers' Conferences
5. District Exhibitions.

Preparation of Public Health literature and its distribution—
Posters.
Booklets.
Leaflets.

Distribution of Magic Lantern Equipment (65 sets) and slides (on 10 P. H. subjects).

1. Holding of Public Health Exhibitions.
2. Organization of Junior Red Cross Societies in schools in rural areas.
3. Organization of the Village Aid Scheme which includes the training of Village Aiders, Village Dais, and establishing of village aid dispensaries

PUBLIC ANALYST.

- Analysis of samples of foods and drugs suspected of adulteration.

SUPERINTENDING ENGINEER, PUBLIC HEALTH DEPARTMENT.

Mechanical Adviser and Water Works Engr. to Govt., U. P.

1. Periodic inspections of Water Works plant and reports.
2. Maintenance of Water-Works returns pertaining to public supplies.
3. Examination of Budget of Local authorities for Water-Works managements.
4. Advice on specifications, tenders for plant.
5. Testing and certifying plant.
6. Advice on establishment matters concerning local authorities, requiring sanction.

Ex. Engr., I Dn., P. H. Deptt., Meerut.

- Project Preparation, Construction, Water-Works, Drainage and Sanitation, Anti-malarial Works. Electric Supplies, Advice and Inspections concerning Health works, Mela water supplies.

Ex. Engr., II Dn., P. H. Deptt., Allahabad.

- Project Preparation. Construction, Water-Works, Drainage. Sanitation, Anti-malarial Works, Electric Supplies, Advice and Inspections concerning Health Works, Mela water supplies, Maintenance of Health works.

Ex. Engr., Well Boring Operations Dn., Cawnpore.

- Tube well construction, Pumping Operations for Mela supplies, Workshop repairs, Project Works, Construction.

- Examination of projects submitted by local authorities for sanction of Government and Board of Public Health and advice thereon. Inspections of Health works. Supervision of Government aided works in Public Health. Reviewing progress and expenditure record of aided works.

LOCAL BODIES.
Municipal and District Boards.

- WATER WORKS SUPDTS.
- MUNPL. AND DISTRICT BOARD ENGINEERS.

LOCAL ORGANISATION

LOCAL BODIES
Municipal and District Boards.

- MEDICAL OFFICERS OF HEALTH 1st CLASS.
- MEDICAL OFFICERS OF HEALTH. 2nd CLASS.
- DIST. MEDICAL OFFICERS OF HEALTH. Assistant Medical Officers of Health.

Chief Sanitary Inspectors

Sanitry Inspectors.

Assistant Superintendents of Vaccination

Vaccinators.

Sub-Registrars of Births and Deaths.

Advisory function ————

Administrative control - - - - - -

Government Press, Allahabad.

Sixty-second Annual Report of the Director of Public Health, United Provinces of Agra and Oudh, for the year ending December 31, 1929.

(Sections I, II, III and IV are omitted in accordance with the orders of the Government of India, Home department, no. 9/257, dated September 4, 1878.)

SECTION V.

General population—Vital Statistics.

Population of the United Provinces on which birth and death rates have been calculated, and the area in square miles.

The population of the United Provinces excluding the Indian States of Rampur, Tehri-Garhwal and Benares, according to the census of 1921, is 45,375,787, and on this the provincial birth and death rates shown in this report have been calculated. The area of the province is 107,167 square miles.

Registration of vital statistics.

2. The defects in the present system of registration of vital statistics have been pointed out in successive annual reports. The several schemes submitted to Government from time to time for impro vement in the system had all to be dropped in view of the prohibitive cost involved. District medical officers of health and their staff gave lectures to the village chaukidars and mortuary clerks at the police thanas in order to secure such improvement as is possible under the present system. An investigation into the procedure for the registration of births and deaths at circle registration offices was conducted during the year, and it was found that, as reports by village chaukidars were furnished in batches at intervals of a fortnight and the circle returns were closed and despatched on the first of the next following month, about 33 per cent. of the statistics for a month could not be included in the return for that month. Certain other irregularities were also brought to notice. With the sanction of Government the date for the despatch of the circle birth and death returns has therefore been altered from the 1st to the 15th of the next following month in order that complete statistics for the month may be available. This procedure means delay, but will secure more correct data.

Rules for the reporting of primary outbreaks of epidemics were so far in a somewhat nebulous state. At the request of the Director of Public Health the Inspector-General of Police issued a set of revised rules which were ordered to be brought to the notice of the village chaukidars. In issuing the revised epidemic rules the Government also drew the attention of the district officers to the necessity for improvement in the reporting of epidemics.

The birth and death rates of 1929 compared with those of 1928 and the quinquennial period. (Statements I and II).

3. The provincial birth-rate for the year 1929 showed a decrease of 3·91 as compared with the rate of 1928 and of ·99 as compared with the mean for the previous five years—the rates for the two years and the previous five years' mean being 34·33, 38·24 and 35·32, respectively. The provincial death-rate for the year was 24·26 as against 24·15 in 1928 and

24·98, the quinquennial average. The reduced birth-rate in 1929 may be ascribed to bad economic conditions.

The birth and death rates and infantile mortality of the United Provinces compared with those of other provinces.

4. In the subjoined table are compared the birth and death rates and the infantile mortality of the United Provinces with those of other provinces :—

Province.	Birth-rate.	Death-rate.	Infantile mortality.
United Provinces	34·33	24·26	168·61
Bombay	38·18	30·53	189·39
Madras	37·9	25·3	180·04
Bengal	29·26	23·52	179·87
Bihar and Orissa	35·6	26·9	135·0
Assam	32·77	20·91	157·44
Central Provinces	43·96	34·13	240·49
Punjab	44·45	28·75	186·20
Burma	26·43	22·06	225·97
North-West Frontier Province ..	30·82	23·66	167·65
Delhi	47·89	36·79	219·74

BIRTHS.

Births and birth-rates. (Statement I.)

5. The total number of births registered during the year under report was 1,557,726 yielding a birth-rate of 34·33 as against 1,735,159 and 38·24, respectively, in the preceding year. The quinquennial average was 35·32. The maximum birth-rate (3·35) was recorded in October as in the last year and the minimum (2·21) in June.

Proportion of male to female births. (Statement I.)

6. The number of males born to every 100 females born practically remained the same as in the preceding six years, viz., 112·38.

The different birth-rates considered. (Statement I.)

7. The district of Moradabad recorded the highest birth-rate (47·24) and was followed by Saharanpur (45·27), Bijnor (44·81) and Garhwal (44·57). Among the districts returning the lowest birth-rates Gonda stood first with a birth-rate of 21·89, followed by Rae Bareli with 25·28 and Dehra Dun with 27·25. The last two districts have been returning low birth-rates for several years.

Excess of births over deaths. (Statement I.)

8. During the year under review births exceeded deaths by 457,042 or 10·07 per mille of the population. The excess was contributed by all the districts except Pilibhit, Naini Tal and Lucknow.

Births and birth-rates in municipalities.

9. During 1929, 139,063 births were recorded in municipalities representing a birth-rate of 47·87 per mille of the population as against 143,020 and 49·27, respectively, in the preceding year. Of the municipalities

returning the highest birth-rates the most conspicuous were Jalesar (72·28), Deoband (69·36), Agra (69·25), Sikandra Rao (66·11) and Jhansi (65·74). The lowest birth-rates were recorded in Naini Tal (12·26), Mussoorie (13·37) and Mainpuri (16·93).

Excess of births over deaths in municipalities.

10. Taking the municipalities as a whole, the birth-rate exceeded the death-rate by 4·29. The excess was contributed by all except Hardwar, Brindaban, Najibabad, Cawnpore, Benares, Kashipur, Lucknow, Sandila, Fyzabad-Ajodhya and Tanda.

Births and birth-rates in notified areas.

11. The total number of births registered in notified areas during 1929 was 15,249, yielding a ratio of 39·28 as against 16,159 and 42·05, respectively, in 1928. Twenty-eight notified areas returned a birth-rate above, and 25 below, the provincial average. The highest birth-rates were noticed in Marehra (63·25), Fatehpur-Sikri (60·51), Rath (57·40) and Kosi (55·53). The lowest birth-rate (8·73) was, as usual, returned by Rikhikesh (Dehra Dun) where, as reported before, the circumstances are peculiar.

Excess of births over deaths in notified areas.

12. Considering the notified areas as a whole, the birth-rate was in excess of death-rate by 6·49, the excess being shared by 39 out of 53 notified areas and ranged between 24·63 and ·48.

DEATHS.

Deaths and death-rates. (Statement II.)

13. The total number of deaths recorded during the year under report was 1,100,684. Of this, 583,720 were males and 516,964 females, the rates being 24·26, 24·54 and 23·95, respectively. The corresponding deaths and death-rates for the preceding year were 1,095,736 ; 578,600 ; 517,136 ; 24·15 ; 24·32 and 23·95, respectively. The mean ratio of deaths per mille of the population during the previous five years was 24·98.

Incidence of mortality in districts including towns. (Statement II.)

14. The provincial death-rate of 24·26 was exceeded in 24 districts of which Pilibhit again stood first with a death-rate of 44·91, followed by Lucknow with 42·11, Bijnor with 34·78 and Naini Tal with 33·56. The lowest death-rates were exhibited by Gonda (15·26) and Rae Bareli (16·71). (For further details refer to statement II.)

Mortality in municipalities.

15. There were 126,596 deaths recorded in all municipal towns during the year under report as compared with 115,960 in the preceding year, the corresponding death-rates being 43·58 and 39·95, respectively. In 26 municipalities the death-rate was above, and in 59 below, the provincial average. Among the municipalities returning the high death-rates, Lucknow with a death-rate of 75·81 was the most conspicuous. Next came Benares with 63·93 and Sandila (Hardoi) with 63·88. The high mortality in Lucknow and Benares was due chiefly to fevers, "all other causes" and respiratory diseases, dysentery and diarrhoea. In Lucknow small-pox and in Benares injuries and cholera were the additional factors. In Sandila, fevers, plague and "all other causes" were responsible for the increase. The municipalities returning the lowest death-rates were Mainpuri (8·43), Mussoorie (10·97) and Naini Tal (19·70).

Mortality in notified areas.

16. During the year under report the mortality recorded in notified areas amounted to 12,727, yielding a death-rate of 32·86 as against 12,339 giving a death-rate of 32·79 in the preceding year. Twenty-six notified areas reported death-rates in excess of the provincial average. Nanpara in the Bahraich district stood first with a death-rate of 58·68. Bhinga (Bahraich) and Nawabganj (Gonda) followed with 54·92 and 50·89, respectively. In Nanpara, fevers, plague and all other causes were the chief causes of the increased mortality. In Bhinga and Nawabganj fevers and all other causes swelled the mortality.

Mortality according to season. (Statement III.)

17. An analysis of general mortality by months shows that May recorded the highest death-rate (2·61) and February the lowest (1·76). (Further details will be found in statement III.)

Mortality by sexes at different age periods. (Statement IV.)

18. During the year under report 583,720 male and 516,964 female deaths were recorded against 578,600 and 517,136, respectively, in the preceding year. The male and female death-rates during the two years were 24·54 and 23·95 ; 24·32 and 23·95, respectively.

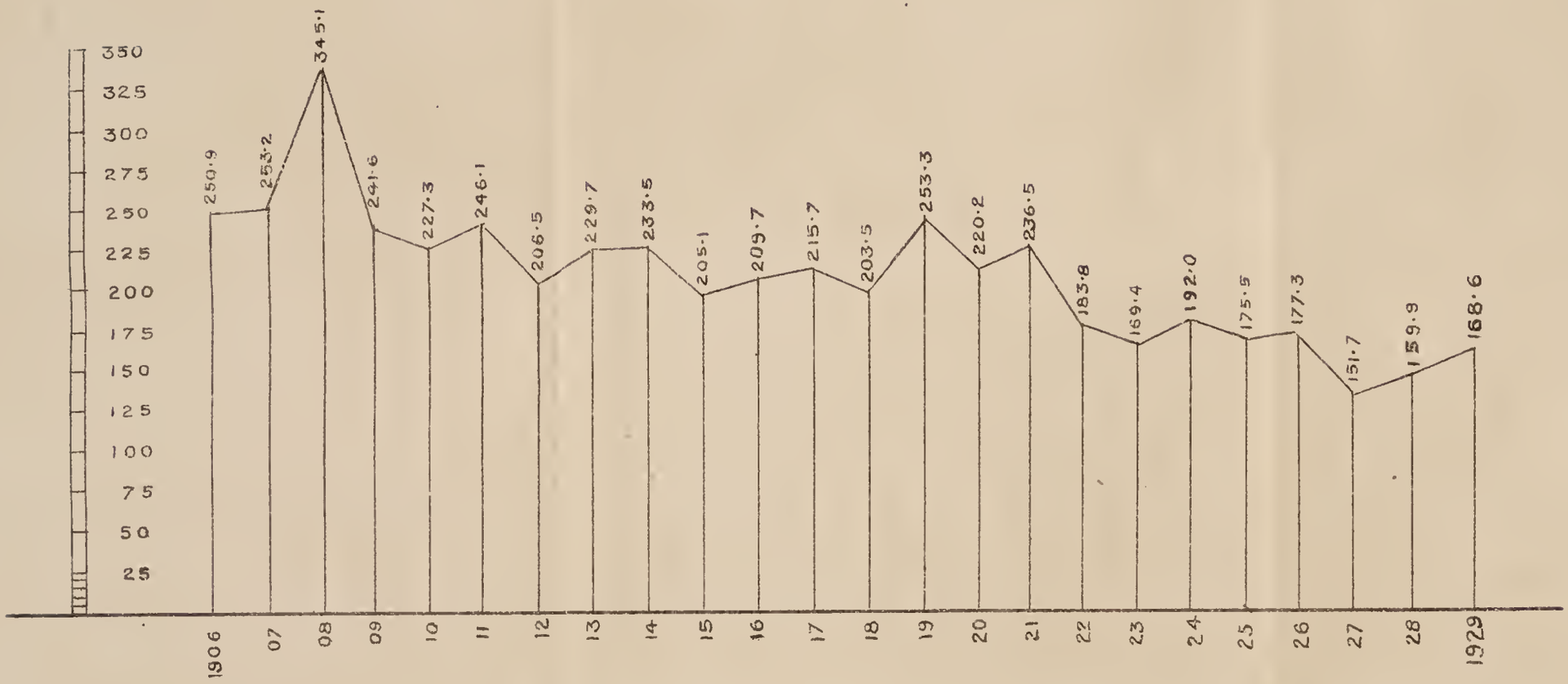
The total number of deaths under one year of age was 262,645 (142,944 males and 119,701 females). (For further details refer to statement IV.)

Infantile mortality.

19. The deaths and death-rates among infants calculated on the births of the year for a series of years are given in the table appended. A chart showing the infantile mortality from 1906 to 1929 is also attached :—

Year.	Births.			Deaths of infants.			Death-rates of infants.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Decennial average (1901—1910).	1,027,110	949,374	1,976,484	263,635	240,436	504,071	256·7	253·3	255·0
1911 ..	1,068,248	985,076	2,053,324	271,575	233,771	505,346	254·2	237·3	246·1
1912 ..	1,105,707	1,019,878	2,125,585	236,328	202,694	439,022	213·7	198·7	206·5
1913 ..	1,160,280	1,072,719	2,232,999	275,228	237,675	512,903	237·2	221·6	229·7
1914 ..	1,094,842	1,009,712	2,104,554	260,739	230,608	491,347	238·1	228·4	233·5
1915 ..	1,060,779	975,342	2,036,121	222,603	195,095	417,698	209·8	200·0	205·1
1916 ..	1,050,532	967,224	2,017,756	224,735	198,395	423,130	213·9	205·1	209·7
1917 ..	1,122,101	1,035,541	2,157,642	247,104	218,363	465,467	220·2	210·9	215·7
1918 ..	977,044	890,800	1,867,844	301,256	365,597	566,833	308·3	298·1	203·5
1919 ..	795,870	720,627	1,516,497	201,368	182,720	384,088	253·0	253·6	253·3
1920 ..	872,094	792,098	1,664,192	194,722	171,815	366,537	223·3	216·9	220·2
Decennial average (1911—1920).	1,030,750	946,901	1,977,651	243,564	213,673	457,237	237·2	227·1	232·3
1921 ..	819,854	740,748	1,560,602	197,223	171,908	369,131	240·6	232·1	236·5
1922 ..	769,516	690,272	1,459,788	145,928	122,384	268,312	189·6	177·3	183·8
1923 ..	864,154	771,296	1,635,450	150,567	126,427	276,994	174·2	163.9	169·4
1924 ..	833,889	741,421	1,575,310	165,194	137,248	302,442	198·1	185·1	192·0
1925 ..	785,661	699,614	1,485,271	140,991	119,688	260,679	179·4	171·1	175·5
1926 ..	820,921	731,133	1,552,054	150,514	124,746	275,260	183·3	170·6	177·3
1927 ..	881,412	785,067	1,666,479	138,328	114,557	252,885	156·9	145·9	151·7
1928 ..	916,760	818,399	1,735,159	152,134	125,320	277,454	165·9	153·1	159·9
1929 ..	824,281	733,445	1,557,726	142,944	119,701	262,645	173·4	163·2	168·6

INFANTILE MORTALITY (PER 1,000) OF BIRTHS IN THE U.P. FROM 1906-1929.



It will be seen that the infantile mortality for the province in 1929 was higher than that in 1927 and 1928, but it was lower than that in other years and the decennial averages for 1901—1910 and 1911—1920.

The information so far received from medical officers of health employed in municipalities shows that out of 1,155 deaths reported as due to tetanus 931 deaths were verified by them and only 744 deaths were found to have actually occurred from this cause. In Meerut, Bareilly, Mirzapur, Hapur and Jaunpur no deaths were reported from tetanus. The medical officers of health concerned have been addressed on the subject.

As stated in the last year's report, the Katra co-operative dairy at Allahabad is the only dairy in existence in these provinces. It worked again at a loss during the year under report. The state of affairs is, however, reported to be improving now as the working committee has been overhauled and a new chairman (the city magistrate of Allahabad) has been elected.

Infantile mortality in districts.

20. The provincial infantile death-rate in 1929 was 168·61 as compared with 159·90 in 1928. In 24 districts the mortality was higher, while in 24 it was lower, than the provincial average. The district of Lucknow which was third last year, stood first with a death-rate of 288·91, while Naini Tal and Pilibhit which held the first and second positions, respectively, went down a step lower this year, but exhibited higher death-rates, viz., 263·38 and 238·45 in place of 239·54 and 218·65, respectively. High infantile death-rates were also returned from Bijnor (211·58), Benares (211·16), Cawnpore (207·28) and Shahjahanpur (202·03). In Lucknow the high infantile mortality was reported as chiefly due tc malaria, other fevers, pneumonia, tetanus and convulsions and exhaustion and malnutrition; in Naini Tal and Bijnor to malaria; in Pilibhit to malaria and tetanus and convulsions; in Benares to malaria, other fevers, and tetanus and convulsions; in Cawnpore to other fevers, pneumonia, and exhaustion and malnutrition, and in Shahjahanpur to other causes. Malaria, measles and tetanus and convulsions were also the additional factors in Shahjahanpur. The lowest mortality among infants was recorded in Gonda (116·31), Rae Bareli (121·97), Gorakhpur (123·95) and Ballia (129·94).

Infantile mortality in municipalities.

21. Taking municipal towns as a whole, the infantile mortality in 1929 was higher than that in the preceding year, the death-rates for the two years being 279·50 and 255·81, respectively.

The infantile mortality in 27 municipalities was above, while in 58 below, the provincial average (279·50). The highest death-rate (469·22) was returned in the Lucknow municipality. Cawnpore, which stood first last year with a death-rate of 383·91, was second this year, but exhibited a higher death-rate (420·34). High infantile mortality was also recorded in Fyzabad-Ajodhya (356·20), Tanda (340·26) and Saharanpur (340·08). In Lucknow and Cawnpore "other fevers," pneumonia and exhaustion and malnutrition were chiefly responsible for the high death-rates. Premature birth and "other causes" in the case of the former and "other respiratory diseases" in the case of the latter were the additional factors. In Fyzabad-Ajodhya the high mortality was mainly ascribable to "other

fevers" and "other respiratory diseases", in Tanda to tetanus and convulsions and malaria, and in Saharanpur to "other fevers" and "other causes." Among the municipalities showing low infantile mortality the most conspicuous were Mainpuri, Bela (Partabgarh), Nawabganj (Bara Banki) and Bareilly, the death-rates being 139·92, 152·78, 153·48 and 155·49, respectively.

Infantile mortality in notified areas.

22. During the year the provincial infantile mortality rate in notified areas was 220·87 against 215·48 in 1928. Twenty-eight notified areas returned death-rates higher, and twenty-five lower, than the provincial average. Rikhikesh in the Dehra Dun district stood first with a death-rate of 400·00. Then in order came Madhoganj (Hardoi) with 355·07, Rajpur (Dehra Dun) with 346·15, Haldwani (Naini Tal) with 326·31 and Hasanpur (Moradabad) with 315·79. Rajpur showed an improvement over last year when the death-rate was 365·85. As in 1928, the lowest infantile mortality (69·60) was recorded in Gorakhpur, followed by Bhim Tal-Sat Tal (Naini Tal) with 106·67 and Shikohabad (Mainpuri) with 106·94. No deaths among infants were recorded in Chunar Settlement where the circumstances are peculiar.

Infantile mortality in urban and rural areas. (Statement VI(a).

23. During the year under report the infantile death-rate per 1,000 of registered births amounted to 275·77 in the case of urban areas and to 157·79 in rural tracts, as against 252·67 and 151·34, respectively, in the preceding year.

Seasonal infantile mortality.

24. Considering the mortality among infants by months, the highest number of deaths (30,661) was recorded in May and the lowest (16,508) in March.

Mortality according to class. (Statement V.)

25. The distribution of mortality by classes given in statement V shows that the highest mortality (27·01) occurred amongst Muhammadans and the next highest (24·03) amongst Hindus. The mortality amongst "Other classes" and Christians was 6·11 and 4·38, respectively.

Urban and rural mortality. (Statement VI.)

26. During the year under report the general death-rate was 43·03 in the case of urban areas and 22·91 in the case of rural tracts as compared with 39·36 and 23·06 in the preceding year and 37·83 and 24·07, the quinquennial averages, respectively.

STILL-BIRTHS.

Still-births in districts.

27. The number of still-births registered during the year under report again showed a decrease, being 12,937 as compared with 14,499 in the preceding year.

As usual, the largest number of still-births (3,104) was recorded in Gorakhpur. The district medical officer of health has been asked to make a special investigation into the matter. Azamgarh followed with 775 and Saharanpur with 657. Mainpuri (4), Sultanpur (9) and Etah (11) returned the lowest numbers.

Verification of causes of deaths.

28. During the year under report as many as 3,879 deaths (which occurred within the limits of the practice of Government medical officers as well as in the medical institutions) were verified by civil surgeons and their

subordinates. The largest number of deaths (2,522) was reported to be due to "all other causes." Then came in order pneumonia (332), tubercle of the lungs (234), dysentery (227), all other infective diseases (124), cholera (114), other tubercular diseases (65), malaria (59) and enteric fever (38). Leprosy and tetanus were responsible for 35 deaths each, pyrexia of uncertain origin for 22, syphilis for 19 and small-pox for 13 Deaths from influenza, kala-azar, beri-beri, plague, gonorrhoea, scurvy and rheumatic fever ranged between 3 and 8. No deaths were reported from relapsing fever. Of the 3,879 deaths, 560 were among children; 2,311 among adults between 16 to 45 years of age, and 1,008 among adults of 46 years of age and upwards.

Registration as tested by the Assistant Directors of Public Health on general duty.

29. The total number of birth and death entries tested by the Assistant Directors of Public Health on general duty in 1929 was 1,249 as compared with 1,446 in 1928.

Registration as tested by the district health staff.

30. The number of birth and death entries tested by the district health staff fell from 243,662 in 1928 to 225,520 in 1929. The percentage of omissions discovered was 5·6 against 6·2 in 1928. The district medical officers of health concerned will be addressed on the subject.

Registration as tested by local authorities.

31. During the year under report 109,265 entries (63,897 birth and 45,368 death) were tested by the local authorities as compared with 143,319 in the preceding year. The percentage of omissions found was 3·94 in the case of births and 2·90 in the case of deaths. The largest number of entries was tested in the district of Jhansi (11,588). Then came Lucknow (7,607), Allahabad (6,524) and Budaun (6,060). Of the districts returning the smallest number of entries tested the most conspicuous were Gorakhpur (70), Ballia (122) and Bulandshahr (228). No testing was done in the districts of Etah, Bareilly, Bijnor, Farrukhabad, Ghazipur, Azamgarh, Naini Tal, Kheri and Gonda. It is evident that the local authorities do not evince sufficient interest in this matter.

At present there are no rules requiring the members and officers of district boards to check vital statistics. As it is necessary that the accuracy of these statistics should be tested by as many agencies as possible, a recommendation has been made to Government to move district boards to frame byelaws for testing births and deaths under the appropriate section of the District Boards Act.

Registration as tested by vaccination staff.

32. The vaccination staff tested 1,265,193 entries (781,433 births and 483,760 deaths) in 1929 as compared with 1,279,919 in 1928, showing a decrease of 14,726. The percentages of omissions discovered in respect of births and deaths were 1·04 and ·58 as against ·92 and ·56, respectively, in 1928. The districts returning the largest number of entries tested were Hardoi (50,527), Gorakhpur (50,184), Cawnpore (40,281) and Azamgarh (39,325). Dehra Dun (4,788), Jalaun (11,304), Aligarh (11,418) and Garhwal (12,308) showed the lowest number of entries tested. The attention of the district medical officers of health and the civil surgeons where the number of entries tested was below the provincial average will be called to the matter.

Neglect to comply with registration rules.

33. The total number of persons fined for neglect in complying with registration rules during the year 1929 was 2,338 and the amount of fines so realized was Rs. 1,188 as compared with 2,294 persons and Rs. 1,109, respectively, in 1928. The attention of Government is invited again to the inadequacy of fines inflicted.

Average dates of submission of statistical returns.

34. The districts of Benares, Sitapur, Gonda, Farrukhabad, Bijnor, Kheri, Basti, Hamirpur and Allahabad again submitted the statistical statements very late this year. The returns were also received very late from the districts of Bara Banki Saharanpur and Gorakhpur. The delay in the submission of the returns in the case of Bara Banki was chiefly due to the late receipt of the circle returns from certain thanas about which the Deputy Commissioner and the Superintendent of Police had to be addressed several times. The attention of the other defaulting districts has been called to the matter.

SECTION VI.

History of the chief diseases.

Death-rates from different causes. (Statement II.)

Appended is a table showing the death-rates per mille of the population from the most important diseases during 1929 and 1928 and the average death-rates for the preceding ten years:—

Chief causes of mortality.	Death-rate per mille for 1928.	Death-rate per mille for 1929.	Average death-rate for preceding 10 years 1919—1928.	Increase or decrease as compared with 1928.	Increase or decrease as compared with decennial average.
Cholera	·99	1·12	·87	+·13	+·25
Small-pox ..	·07	·26	·12	+·19	+·14
Plague	1·78	·83	·93	−·95	−·10
Fever	16·83	17·86	22·52	+·98	−4·66
Dysentery and diarrhoea.	·29	·33	·29	+·04	+·04
Respiratory diseases ..	·75	·74	·63	−·01	+·11
Injuries	·47	·46	·48	−·01	−·02
All other causes ..	2·91	2·66	3·34	−·25	−·68
All causes	*24·15*	*24·26*	*29·18*	*+·11*	*−4·92*

It will be seen that in 1929 as compared with 1928 increases occurred under heads cholera, small-pox and fever and to a slight extent under dysentery and diarrhoea, while compared with the decennial average, higher death-rates are noticed under heads cholera, small-pox, dysentery and diarrhoea and respiratory diseases. The year's death-rate from all causes (24·26) shows a decrease of 4·92 as compared with the decennial average (29·18), the largest and main decrease (4·63) being returned under head "fevers."

CHOLERA.

Deaths and death-rates from cholera. (Statement VII.)

2. During the year under report deaths from this cause totalled 50,924, giving a ratio of 1·12 per thousand of population as compared with 44,941 and ·99, respectively, in 1928. The mean ratio for the previous five years was ·68. The highest mortality occurred in August and the lowest, as in last year, in February.

A graphical chart showing the number of deaths from cholera for a series of years is appended.

Cholera in districts and towns. (Statements VII and VIB.)

3. In 16 districts the mortality from cholera was above the average for the province (1·12). Pilibhit occupied the first place with a ratio of 6·49 and was followed by Ghazipur (3·80), Ballia (3·50) and Fyzabad (3·00). The lowest mortality was recorded in the district of Etawah where the death-rate was ·02. Mainpuri with a death-rate of ·04, Muzaffarnagar with ·05 and Meerut with ·07 were the next lowest. Out of 92 towns 13 were quite free from the disease, while in 25 the number of deaths did not exceed 10. Of the remaining 53 towns Gaura Barhaj (Gorakhpur) again returned the highest death-rate (10·96). The next

highest death-rates were perceptible in Mahoba in the Banda district (10·30), Mubarakpur in the Azamgarh district (9·20) and Sandila in the Hardoi district (7·18).

In the 20 districts of the Benares, Lucknow, Fyzabad and Gorakhpur revenue divisions where the special scheme for the control of cholera is in operation 37,267 deaths were recorded as compared with 13,657 in the remaining 28 districts not under the cholera scheme. All the 20 districts were, as usual, adequately equipped with public health staff and requisite medicines. The total quantity of permanganate of potash and essential oils mixture consumed in the districts under the cholera scheme was 48,805 lbs. and 2,492 lbs. respectively. In June, 1929 Government issued a notification (no. 354/XVI—53, dated June 4, 1929) publishing detailed and comprehensive rules regarding the control of epidemic diseases in all the plains as well as the hill districts for the guidance of Government officers and district and municipal boards. These rules provided for the stocking of all the districts of the province with permanganate of potash and kaolin and otherwise taking anti-cholera measures in them in the same way as in the 20 districts where the cholera scheme is in force. In other words, the notification sanctioned the extension of the anti-cholera scheme in the remaining 28 districts including the three districts of the Kumaun division. As, however, there was not provision in the budget to carry out the extended scheme during the year, district medical officers of health and civil surgeons were asked to indent for permanganate of potash in the event of cholera breaking out in epidemic form as it could only be supplied to the limit of the capacity of the department. In all 3,783 additional lbs. of permanganate of potash were thus supplied during the year.

In view of the special problems of Garhwal (through which the pilgrim route to Badrinath and Kedarnath passes) a separate special cholera scheme, which provides for the entertainment of an additional staff, was in operation in that district.

In order to enable the authorities to take special action to arrest the spread of cholera or other epidemics a draft of temporary regulations proposed by Government to be made from time to time as necessity arose under the Epidemic Diseases Act (III of 1897) as amended by Act XXXVIII of 1920 for application in the rural area comprising the following was published for general information in July, 1929 :—

(i) Removal of patients to hospitals.

(ii) Prohibition of infected persons from entering public vehicles.

(iii) Disinfection of infected clothing and private dwellings.

(iv) Disinfection and protection of water-supply.

(v) Prohibition of the sale of articles of food.

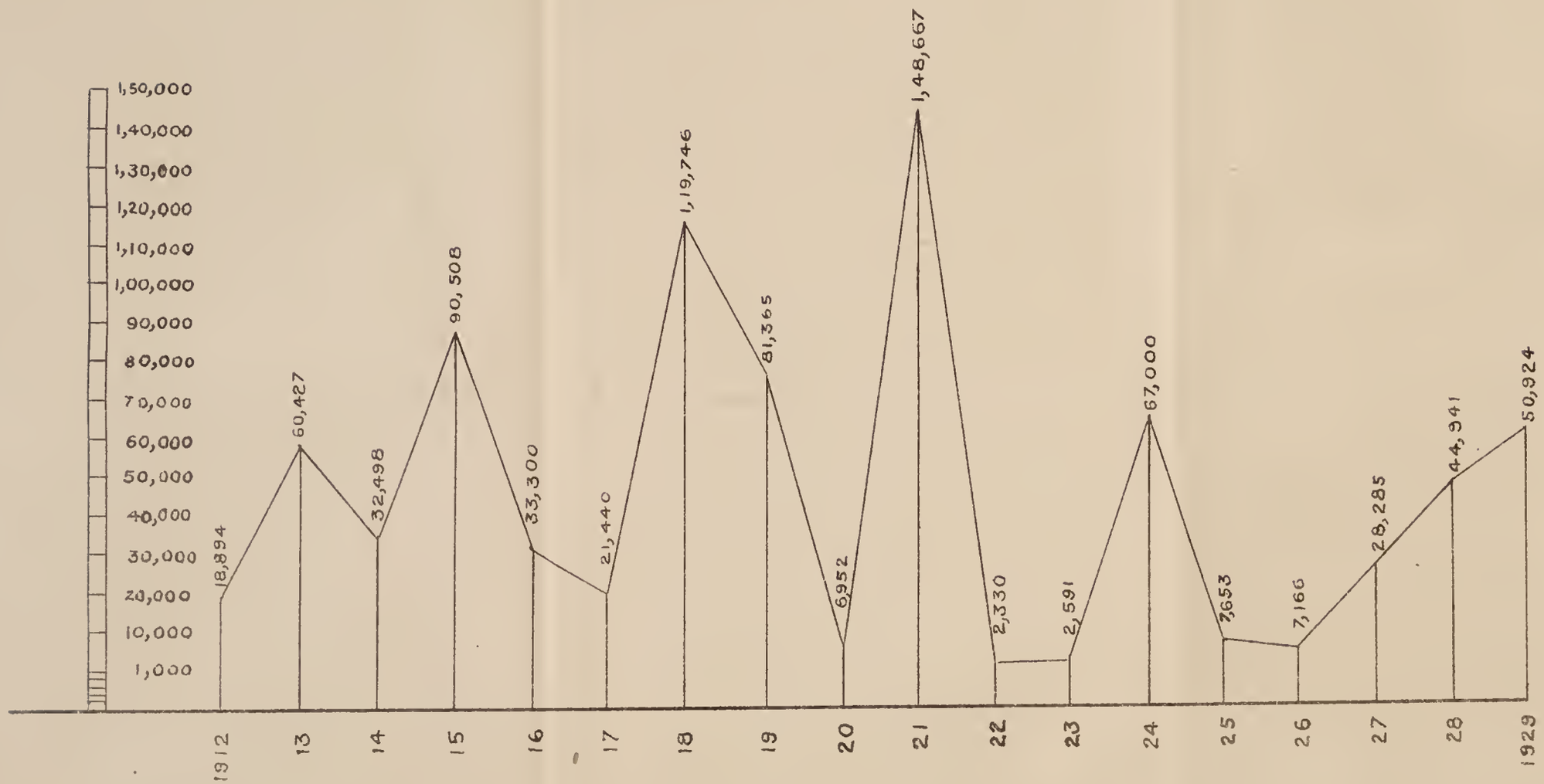
(vi) Prevention of pollution of rivers, tanks, etc.

(vii) Closure of schools.

(viii) Dispersal or stoppage of fairs.

(ix) Prohibition of the assembly of persons in places of public entertainment.

TOTAL NUMBER OF DEATHS DUE TO CHOLERA IN THE U.P. FROM 1912-1929.



Any or all of these regulations can be enforced in a district or a portion thereof in accordance with the recommendations of the district magistrate, who is required to apply for necessray sanction to the Local Government through the Director of Public Health. During 1929 these regulations were enforced in the whole of the district of Gorakhpur and in parts of Bareilly and Muzaffarnagar for short periods.

The districts of Kumaun division where a modified form of cholera scheme was in operation recorded 579 deaths. The disease was very mild in the districts of Naini Tal and Almora where only 86 and 46 deaths, respectively, were registered. In Garhwal the epidemic was severe. Infection was brought by a pilgrim coming from Hardwar and Rikhikesh where there was cholera. The man died at Srinagar on May 11, 1929. The disease spread along the pilgrim route, as cases were reported to have occurred at Sauri, Ranibagh, Rudraprayag and Okhimath chattis. All possible measures were taken promptly and the whole public health staff concentrated in the affected areas. The outbreak along the pilgrim route which was the main line of infection was kept well under control and only 39 deaths occurred in the whole route. But the infection entered into the interior of the district where owing to the transport difficulties, etc., the disease took a severe epidemic form. The infection was not confined to any particular locality. It was carried into the various parts of the district by coolies and gumashtas from the pilgrim route. Altogether 447 deaths were reported in the district.

Reports received from the district medical officers of health show that outbreaks of cholera in the districts of Gorakhpur, Basti, Gonda and Ballia were in certain cases due to infection brought from outside the province. There were two distinct waves of cholera incidence during the year, the first in the usual cholera months April, May and June and continuing during the rains, and the latter in the late autumn following the Katki fair at Ajodhya when Gonda, Sultanpur, Fyzabad and adjoining districts became badly infected and the disease was not brought finally under control until the middle of December. This latter outbreak which was largely due to importation from the Basti district during the Ajodhya fair was one of the most severe nature recorded at Ajodhya during the past seven years, as many as 63 admissions being made to the infectious diseases hospital of whom 18 died. The usefulness of the infectious diseases hospital at Fyzabad was brought prominently into relief during this severe and sudden outbreak and its accommodation was severely taxed.

The Assistant Directors of Public Health supervised anti-cholera measures and advised local authorities where necessary. Reserved D. P. H. medical officers, public health travelling dispensaries, special health officers and extra medical officers were detailed to the infected districts of the province when requisitioned by the civil surgeons and the district medical officers of health concerned. The services of the revenue and vaccination staffs, etc., were also utilized.

The total number of inoculations performed during the year was 93,005. Anti-cholera vaccine worth Rs. 9,304 was purchased by the department and supplied to civil surgeons and district medical officers of health and other agencies during the year under review. Monetary grants

aggregating Rs. 28,605 were placed at the disposal of the district magistrates and Assistant Directors of Public Health of the first and third ranges for meeting other cholera charges in connexion with anti-cholera measures in the district.

Reporting of cholera outbreaks by police and patwaris.—Reporting of cholera outbreaks by the police and patwaris was on the whole fairly satisfactory. In a few cases which were brought to the notice of the authorities concerned the defaulters were punished.

Inspection of passengers.—With a view to prevent importation of cholera in the province on the occasion of certain fairs medical inspection of passengers was instituted at the following railway junctions where segregation hospitals were erected for treatment of intercepted cases, for the periods noted :—

1. Moghal Sarai. 2. Ballia. 3. Bhatni (Gorakhpur). 4. Captainganj (Gorakhpur).	From December 15, 1928 to May 15, 1929.
5. Saharanpur.	From December 15, 1928 to January 28, 1929.

The medical inspection post instituted at Captainganj was later on removed to Gorakhpur railway station, as traffic from Captainganj side alone was not sufficient to justify the posting of one full-time medical officer. The medical officer at Gorakhpur railway station inspected passengers coming from Bihar as well as from the Nepal territory. The inspection post at Saharanpur railway station was closed from January 28, 1929, as there was no cholera in the western districts of the province. Every attempt was made to make the segregation hospitals reasonably comfortable. The total number of cholera cases intercepted and treated at these hospitals was 57.

In April, 1929 Government issued instructions to all heads of departments for the protection of touring officers against infection of cholera. These instructions are reproduced below :—

"Officers who have to tour in districts where cholera is prevalent should take the following precautions :—

(1) *Inoculation.*—A few days before the tour commences the officer should be inoculated and should arrange for his staff to be inoculated. This is the best safeguard and the after-results of anti-cholera inoculation are slight, if any. No absence from duty is permissible for the purpose of being inoculated.

Anti-cholera vaccine is stocked by all civil surgeons, district medical officers of health and travelling dispensaries, but officers are advised to give medical officers a few days' notice of their desire to be inoculated, so that exhausted stocks may be replenished, if necessary.

As cholera inoculation will give protection for six to nine months and the cholera season extends from the middle of March to November, district officials will be adequately protected.

(2) *Preventive measures.*—When touring in infected areas an officer, if not inoculated, should—

(*a*) personally permanganate on arrival all wells near his camp. One packet of permanganate should be used for each well, the crystals being dissolved in buckets of water and the darkened fluid thrown into wells;

(*b*) drink boiled or permanganated water;

(*c*) insist on the use of permanganated water for washing all vegetables, fruits, etc., and all dishes, glass and cutlery;

(*d*) avoid uncooked vegetables and unripe or overripe fruit or any cooked cold food, e.g., meat, etc., which has been possibly exposed to flies since it was cut or cooked. Freshly cooked food only should be eaten, and that while still hot.

(3) *Treatment.*—All touring officers should, during the cholera season, carry in their kit (1) a few packets (each 4 oz.) of kaolin and (2) a 2 oz. bottle of essential oils. Both these are very effectivein the early stages of cholera and both should be used as indicated below :—

Kaolin.	*Essential oils.*
Diarrhoea.—A few doses of two teaspoonfuls in milk or water every fifteen minutes.	One or two doses of one teaspoonful in a glass of water.
Cholera.—Two teaspoonfuls in milk or water every fifteen minutes for at least four hours.	One-half teaspoonful in water every fifteen minutes for four hours and thereafter one teaspoonful in water every hour till complete recovery.

Kaolin is china clay and keeps indefinitely.

Essential oils keep indefinitely and the mixture consists of oil of aniseed (5 minims), oil of cajaput (5 minims), oil of juniper (5 minims), aromatic sulphuric acid (15 minims) and spirit ether (30 minims) per dose of one teaspoonful.

The district medical officer of health or the civil surgeon will supply kaolin in 4 oz. packets and essential oils mixture to all Government departments according to requirements on payment at the rate of annas 4 per oz. packet of kaolin and annas 8 per 2 oz. bottle of essential oils.

Potassium permanganate is a free issue obtainable from district medical officers of health (or the civil surgeons where district medical officers of health have not been appointed), tahsildars and patwaris.

Government also issued orders that the cost of kaolin and essential oils required for their personal use by touring officers of Government should be met out of the contingent grant of the officers.

Urban and rural mortality from cholera. (Statement VI.)

4. The mortality from cholera in the urban areas was 1·14 and in the rural tracts 1·12 as against ·67 and 1·01, respectively, in 1928.

SMALL-POX.

Deaths and death-rates from small-pox in districts and towns. (Statements VIII and VIB.)

5. During the year under report 11,725 deaths were returned under this head as compared with 3,012 in 1928, the death-rates for the two years being ·26 and ·07, respectively. The mean for the previous five years was ·15. Out of 11,725, 4,269 deaths occurred among children under one year of age and 5,773 between 1 to 10 years. The highest number of deaths (2,496) occurred in May as in the four preceding years and the lowest (92) in October like last year. Amongst the districts showing highest death-rates Bijnor (1·43), Etah (1·35), Bulandshahr (1·20), Muttra (1·17) and Agra (1·11) were most conspicuous. The districts returning the low death-rates were Gonda (·01) and Sultanpur, Basti, Kheri and Bara Banki (·02 each). Only one death was reported from Hamirpur and 3 from Bahraich.

Fourteen towns out of 92 were quite immune from the disease, while in 41 the number of deaths did not exceed 10. Of the remaining towns, the worst affected were Kiratpur, Nagina and Najibabad in the Bijnor district, the death-rates being 10·15, 9·45 and 8·61, respectively. (For further details on the subject please refer to section VII of this report.)

Urban and rural mortality from small-pox. (Statement VI.)

6. The urban mortality from small-pox in 1929 was 1·07 and the rural mortality ·20 against ·24 and ·05, respectively, in 1928.

Small-pox hospitals.

7. As stated before, no regular small-pox hospitals exist in these provinces. Particulars of the cases treated in the infectious diseases hospitals where such exist or in hospitals with infectious diseases wards are given in the table herein appended :—

Serial number.	Name of place where the small-pox hospital is situated.	Number of patients treated in the hospital.	Vaccinal condition of the patients treated in the hospital.					Remarks.
			Vaccinated as evidenced by presence of one or more vaccination cicatrices.	Stated to have been successfully vaccinated, but no vaccination cicatrix present.	Stated to be unvaccinated or vaccinated unsuccessfully and no vaccination cicatrix present.	Previously unvaccinated, but vaccinated during incubation of small-pox.	Stated to have been successfully re-vaccinated.	
1	Dehra Dun city ..	15	None.	None.	Yes.	..	..	Twelve patients were discharged as cured, 2 died and 1 absconded.
2	Mussoorie city ..	17	5	1	10	1	..	Six died.
3	Hardwar ..	13	11	..	2	..	..	All cured.
4	Muttra ..	14	14	..	..	..	..	One died.
5	Agra, Hewett Infectious Hospital.	41	12	..	29	..	..	Five unvaccinated died.
6	Agra Cantonment Boiluganj Hospital.	5	2	..	3	..	..	All cured.

Serial number.	Name of place where the small-pox hospital is situated.	Number of patients treated in the hospital.	Vaccinal condition of the patients treated in the hospital.					Remarks.
			Vaccinated as evidenced by presence of one or more vaccination cicatrices.	Stated to have been successfully vaccinated, but no vaccination cicatrix present.	Stated to be unvaccinated or vaccinated unsuccessfully and no vaccination cicatrix present.	Previously unvaccinated, but vaccinated during incubation of small-pox.	Stated to have been successfully re-vaccinated.	
7	Shahjahanpur Sadar Hospital.	2	..	..	2	..	..	One cured and the other was under treatment.
8	Shahjahanpur (Dufferin Hospital).	2	Marks present.	..	..	..	..	Results not known.
9	Tilhar Hospital (district Shahjahanpur).	1	"	..	..	..	..	Recovered.
10	Cawnpore ..	16	13	..	3	..	..	Three died.
11	Allahabad ..	21	5	4	12	..	..	Do.
12	Banda (Police Hospital).	2	2	..	..	..	..	Both recovered.
13	Benares Infectious Diseases hospital.)	19	19	..	..	..	..	17 cured, and 2 were in hospital.
14	Benares Municipal Hospital.	12	..	..	12	..	..	Eight died.
15	Ghazipur ..	4	7	..	2	..	..	All cured.
16	Naini Tal (Manora Hospital).	21	20	..	1	..	..	One unvaccinated died.
17	Haldwani (district Naini Tal) isolation huts.	8	..	..	8	..	..	Two died.
18	Bhim Tal (Naini Tal).	3	3	..	..	..	..	No death.
19	Naini Tal (Crosthwaite Hospital).	1	1	..	..	..	..	Result unknown.
20	Kashipur (district Naini Tal).	2	1	..	1	..	..	One unvaccinated died.
21	Ramnagar (district Naini Tal).	3	3	..	..	..	..	Results unknown.
22	Lucknow ..	21	16	..	5	..	..	One died.
23	Unao (Police Hospital).	1	1	..	..	..	..	11 cured and results of two not known.
24	Unao (Sadr Hospital)	5	..	..	5	..	..	
25	Purwa (district Unao).	1	..	..	1	..	..	
26	Maurawan (district Unao).	6	4	2	..	..	..	
27	Fyzabad (Infectious Diseases hospital, Ajodhya).	6	..	..	6	..	..	All recovered.

PLAGUE.

8. There were 37,678 deaths from plague in 1929 as compared with 80,943 in 1928, showing a decrease of 43,265 deaths which is very satisfactory. The death-rates for the two years were ·83 and 1·78, respectively, and the mean for the previous five years 1·14.

Deaths and death-rates from plague. (Statement XII.)

9. The district of Ghazipur which was second last year stood first during the year under report with a death-rate of 5·61. Then in order came Azamgarh with 5·27 and Muzaffarnagar and Ballia with 3·86 each. Eleven districts were quite free from plague, while in two districts the number of deaths was too small to yield a ratio. (Further information on the subject is given in paragraph 5 of section X of this report.)

Plague in districts. (Statement XII.)

10. In towns having a population of 10,000 and upwards the highest mortality was recorded in Nanpara in the Bahraich district which exhibited a death-rate of 19·13. Then followed Sandila in the Hardoi district with 16·41 and Mau in the Azamgarh district with 15·33. In 17 towns the number of deaths did not exceed 7, while 48 towns were quite free from the disease.

Plague in towns. (Statement VIB.)

11. The mortality from plague was ·58 in urban areas and ·85 in rural tracts as compared with 2·87 and 1·71, respectively, in 1928.

Urban and rural mortality from plague. (Statement VI.)

FEVERS.

12. During the year under report fevers claimed 810,583 deaths as compared with 765,954 in 1928, the death-rates being 17·86 and 16·88, respectively, and the quinquennial mean 18·71. The largest number of deaths was recorded in May and the smallest in February as in last year.

Deaths and death-rates from fevers in districts and towns. (Statements IX and VIB.)

An analysis of deaths by sub-classification shows that 711,134 deaths occurred from malaria, 77,424 from other fevers, 12,846 from measles, 8,540 from enteric fever, 347 from relapsing fever and 292 from kala-azar.

These figures are, however, not reliable as explained in previous years' reports.

The districts of Pilibhit, Naini Tal and Saharanpur held the first three places as in the last year, the death-rates being 32·72, 29·55 and 25·99, respectively. Like last year, the districts of Fatehpur and Allahabad returned the lowest mortality, the death-rates being 10·61 and 11·28, respectively, and were followed by Gonda (11·52) and Ballia (11·54). Among the towns the highest death-rates were noticed in Lalitpur in the Jhansi district (32·68), Saharanpur (32·64) and Jahangirabad in the Bulandshahr district (31·91), and the lowest in Mussoorie (1·85), Naini Tal (3·79) and Ballia (4·61). These towns returned low mortality in the preceding year also.

13. The urban and rural death-rates for the province in 1929 were 19·65 and 17·73 as against 15·87 and 16·95, respectively, in 1928.

Urban and rural mortality from fevers. (Statement VI.)

Relapsing fever, enteric fever and kala-azar. (Statement VI(a).

14. As shown in paragraph 12 above, the total number of deaths reported to have occurred from relapsing fever, enteric fever and kala-azar in 1929 was 347, 8,540 and 292, respectively. The corresponding figures for the preceding year were 513, 9,194 and 474, respectively. A comparative table showing the incidence of these diseases according to the reports of the verified and unverified agencies is given in paragraph 25 of this section.

Influenza.

15. There was no epidemic of influenza in the province during the year, only mild sporadic cases having been recorded.

Tuberculosis.

16. The Anti-tuberculosis League of Lucknow continued its efforts towards collecting subscriptions for the construction of the proposed special tuberculosis hospital, and it is gratifying to note that Government have ordered plans for the same to be drawn up by the Government Architect.

Under Government (Municipal department) notification no. 3681/XI—368, dated December 17, 1928, as amended by notification no. 1348/XI—366, dated May 10, 1929, pulmonary tuberculosis was included among the diseases notifiable under section 279 of the Municipalities Act, and a circular drawing the attention of the municipal boards to the necessity of adopting measures for preventing the spread of the disease in so far as it lay with them and detailing necessary instructions was issued to all chairmen, municipal boards, district magistrates, municipal medical officers of health, etc.

DYSENTERY AND DIARRHOEA.

Deaths and death-rates from dysentery and diarrhoe in districts and towns. (Statements X and VIB.)

17. During 1929 dysentery and diarrhoea were responsible for 14,865 deaths, representing a death-rate of ·33. The corresponding figures for the preceding year were 13,212 and ·29, respectively, and the mean ratio for the previous five years ·27. The highest mortality occurred in August and the lowest in February as in previous years. The highest death-rate (4·33) was returned by Garhwal. Then came Lucknow with 1·48 and Almora with 1·44. The lowest death-rates were noticeable in Partabgarh (·02) and Mainpuri and Basti (·03 each). Out of 92 towns two were entirely free from the diseases, while in 19 deaths ranged between 1 to 10. Among the remaining 71 towns, Atrauli as usual topped the list, the death-rate being 10·45. Kashipur in the Naini Tal district retained its second place of the last year with 6·24. High death-rates were also recorded in Brindaban in the Muttra district (6·15) and Chandausi in the Moradabad district (6·12).

Urban and rural mortality from dysentery and diarrhoea. (Statement VI.)

18. The urban death-rate was 2·76 as against 2·32 in the preceding year, while the death-rate in the rural tracts was the same as in the last year, viz., 15.

RESPIRATORY DISEASES.

Deaths and death-rates from respiratory diseases in districts and towns. (Statements XI and VIB.)

19. There was a decrease of 768 in the number of deaths registered from respiratory diseases in 1929 as compared with the preceding year, the actual number of deaths for the two years being 33,532 and 34,300 and the resulting rates ·74 and ·75, respectively. The quinquennial average was ·65. The highest mortality was recorded in November and the lowest in July.

As usual Hamirpur stood first with a death-rate of 5·24 and Lucknow second with 4·94. Then followed Cawnpore with 3·10 and Dehra Dun with 3·08. The districts returning the minimum mortality from these causes were Partabgarh (·05) and Mainpuri and Basti (·07 each).

Two towns out of 92 did not return any deaths, while in seven the number of deaths did not exceed 9. Among the remaining towns Pilibhit recorded the highest mortality, the death-rate being 18·33. Then in order came Cawnpore with 17·83, Lucknow with 15·59, Kashipur in the Naini Tal district with 14·94 and Farrukhabad-*cum*-Fatehgarh with 14·71. The lowest mortality was recorded in Ballia (·05), Sherkot in the Bijnor district (·07) and Mainpuri (·14).

Urban and rural mortality from respiratory diseases. (Statement VI).

20. In 1929 the death-rate in urban areas was 8·06 and in rural areas ·21. The corresponding rates for 1928 were 8·18 and ·23, respectively.

INJURIES.

Deaths from several minor causes. (Statement VI).

21. In 1929, 20,843 deaths were recorded from injuries as compared with 21,329 in the preceding year. Of these, 1,917 were suicides. 13,820 deaths were due to wounds or accidents, 4,684 to snakes and wild beasts and 422 to rabies. (Further details will be found in statement VI.)

ALL OTHER CAUSES.

Deaths and death-rates under the heading "all other causes." (Statement VI.)

22. During the year under report 120,534 deaths were registered under this head as compared with 132,045 in the preceding year. The death-rates for the two years were 2·66 and 2·91, respectively.

Deaths from child-birth. [Statement VI(*a*).]

23. The total number of deaths recorded as due to child-birth in 1929 amounted to 1,947 as compared with 1,774 in 1928.

Venereal diseases.

24. A centre for the free treatment of venereal diseases has been opened at the King George's Hospital, Out-patients department, Lucknow, with a staff consisting of one honorary surgeon, one compounder and one sick attendant. The enlargement of this centre awaits the allotment of funds by Government, who have not so far been able to make any provision for the purpose.

Accuracy of the returns.

25. Appended is a table showing the ratios of deaths per cent. of the total number of deaths in the returns submitted by the qualified agency and the ordinary registration agency as well as the calculated number of deaths on the data supplied by the former and the actual number of deaths reported by the latter. It will be seen that, as in previous years, deaths returned by the ordinary agency in respect of dysentery, kala-azar and pneumonia were under-reported, while those returned by the same agency in respect of malaria, small-pox, plague and relapsing fever were over-reported.

The remarks made in the last year's report hold good :—

Name of disease.	Percentage of total deaths by—		Calculated number of deaths on the data supplied by professional agency.	Actual number of deaths reported by ordinary agency.
	Verified agency.	Unverified agency.		
Cholera	29·4	4·63	32,348	50,924
Small-pox	·33	1·06	3,689	11,725
Plague	·13	3·42	1,419	37,678
Dysentery	5·85	·62	64,412	6,868
Enteric fever	·95	·77	10,783	8,540
Relapsing fever	..	·03	..	347
Malaria	1·52	64·61	16,741	711,134
Kala-azar	·21	·03	2,270	292
Pneumonia	8·56	·73	94,206	7,991

SECTION VII.

General history of vaccination.

Period covered.

A detailed account for the triennium 1926-27 to 1928-29 having been given last year, the section deals briefly with vaccination in 1929-30 as compared with 1928-29.

Charge of the department.

2. Lieut.-Colonel C. L. Dunn, C.I.E., D.P.H., I.M.S., held charge of the department from April 1, 1929 to March 11, 1930 when he proceeded on leave ex-India and the charge was taken over by me.

Constitution and strength of the department. (Vaccination statement II.)

3. The following officers were in charge of the several ranges during the year :—

I RANGE.

Rai Bahadur Dr. K. L. Chaudhri, O.B.E., D.P.H., throughout the year except for the period from April 1 to 14, 1929, during which he was on leave and Dr. H. S. Dube, D.P.H., held the charge.

II RANGE.

I, as Assistant Director of Public Health, held charge of the range from April 1, 1929 to March 11, 1930, and Dr. M. N. Mitra, D.P.H., from March 11 to 31, 1930.

III RANGE.

Dr. K. P. Mathur, D.P.H., throughout the year.

During the year under review the number of assistant superintendents of vaccination and vaccinators was 50 (49 permanent and one temporary) and 916, respectively.

Expenditure on vaccination. (Vaccination statement II.)

4. During the year under review there was an increase of Rs. 24,959 in the total cost of the department including the charges on account of the Assistant Directors of Public Health and their establishment and of Rs. 19,437 ; excluding these charges, as compared with the preceding year, the actual amounts of expenditure for the two years being Rs. 5,00,696 and Rs. 4,75,737, Rs. 4,31,458 and Rs. 4,12,021, respectively.

The increase in expenditure is ascribable chiefly to the following reasons :—

(1) Purchase of a new compressor for Rs. 6,089 for the Government Bovine Lymph Dépôt.
(2) Increments to the Assistant Directors of Public Health.
(3) Increased expenditure under head " travelling allowance " to the Assistant Director of Public Health, I Range, and
(4) Contingencies.

Average cost of each successful case of vaccination. (Vaccination statement II.)

5. During the year under report the average cost of each successful case of vaccination was practically the same as in the preceding year, the actual amounts for the two years being annas four and pies three and annas four and pies two, respectively.

The following table shows the average cost of each successful case of vaccination in these provinces during the year under report as compared with other provinces :—

Province.	Cost of each successful case of vaccination during 1929-30.
	Rs. a. p.
United Provinces	0 4 3
Bihar and Orissa..	0 2 2
North-West Frontier Province	0 1 8
Delhi	0 5 8
Assam	0 4 0
Bengal	..*
Punjab	..*
Burma	0 9 11
Central Provinces	0 6 11
Madras	0 7 6
Bombay	0 14 5

* Information not received.

General operations. (Vaccination statement I.)

6. During the year under report 1,619,582 persons were vaccinated (1,618,123 by the special (district) staff and 1,459 by the dispensary staff) as against 1,553,631 in 1928-29, indicating an increase of 65,951. The number of vaccination operations performed in 1929-30 also exhibited an increase of 58,766 over the preceding year, the actual figures for the two years being 1,641,791 (1,469,821 primary and 171,970 re-vaccinations) and 1,583,025 (1,443,993 primary and 139,032 re-vaccinations), respectively. The number of secondary operations fell from 29,394 in 1928-29 to 22,209 in 1929-30. The number and percentage of successful vaccinations in which the results were known during the year under report amounted to 1,374,372 and 94·72 in the case of primary vaccinations and to 69,101 and 43·79 in the case of re-vaccinations as compared with 1,342,716; 94·22 and 59,350 and 46·69, respectively, in 1928-29. Each vaccinator vaccinated on an average 1,770 persons in 1929-30 as compared with 1,698 in the preceding year. The district staff successfully vaccinated 31·79 persons per mille of the population as compared with 30·89 in 1928-29.

It will be seen that, like last year, there was an increase under all heads except under the head "percentage of successful re-vaccinations" and a satisfactory decrease under secondary operations.

Successful primary vaccinations in different districts. (Vaccination statement I.)

7. Thirty-four districts showed an increase in the number of successful primary vaccinations performed in 1929-30 as compared with 1928-29. Of these Moradabad stood first with an increase of 3,835. Then came in order Ghazipur with 2,729, Sultanpur with 2,715, Bulandshahr with 2,668, Farrukhabad with 2,637, Rae Bareli with 2,586, Garhwal with 2,400 and Azamgarh with 2,180. Of the remaining 14 districts showing a falling off the most conspicuous were Aligarh (1,431), Gorakhpur (1,147), Fatehpur (1,133), Cawnpore (955) and Hamirpur (875).

In Aligarh the decrease is reported to be due to a smaller number of vaccinations having been performed in the Aligarh-Koil and the Hathras municipalities than the last year when extra staff had to be engaged owing to prevalence of small-pox. In Gorakhpur it is ascribable to the deputation of 17 vaccinators to the Kumbh Mela, Allahabad and in Fatehpur, partly to the retirement of an experienced and competent vaccinator and partly to the deputation of three vaccinators to the Kumbh Mela. In Hamirpur it is attributed to the negligence on the part of some vaccinators who have been severely punished. In Cawnpore the decrease is accounted for by the fact that in 1928-29 two extra vaccinators had been appointed owing to severe epidemic.

Successful vaccination and degree of protection afforded. (Vaccination statement I.)

8. The number of persons successfully vaccinated per mille of the population in 1929-30 was 31·81 as against 30·90 in 1928-29. Like last year Garhwal enjoyed the highest degree of protection with a ratio of 60·26. The next best protected district was Dehra Dun (56·41). Then came in order Almora (52·45), Mirzapur (42·59), Saharanpur (39·91) and Hamirpur (38·66).

Vaccination in proportion to births and according to age.

9. In 1929-30 the percentage of successful vaccination operations in proportion to births was 56·10 as regards children under one year of age, 27·64 as regards those between one and six years of age and 88·23 as regards all ages. The corresponding figures for the preceding year were 50·85, 22·19 and 77·38, respectively. The figures show an increase over the preceding year under all heads.

An examination of figures by ranges shows that 60·39 children under one year of age were successfully vaccinated per 100 births during the year under review in the first range, 50·90 in the second range and 55·13 in the third range, against 53·99, 46·46 and 50·80, respectively, in the preceding year. As in previous years the first range made itself conspicuous in affording the best protection compared to the other two ranges.

Mortality from small-pox.

10. The total number of deaths reported from small-pox in 1929 amounted to 11,725 as compared with 3,012 in 1928, the death-rates for the two years being ·26 and ·07, respectively. The mean for the previous five years was ·15.

Diagram.

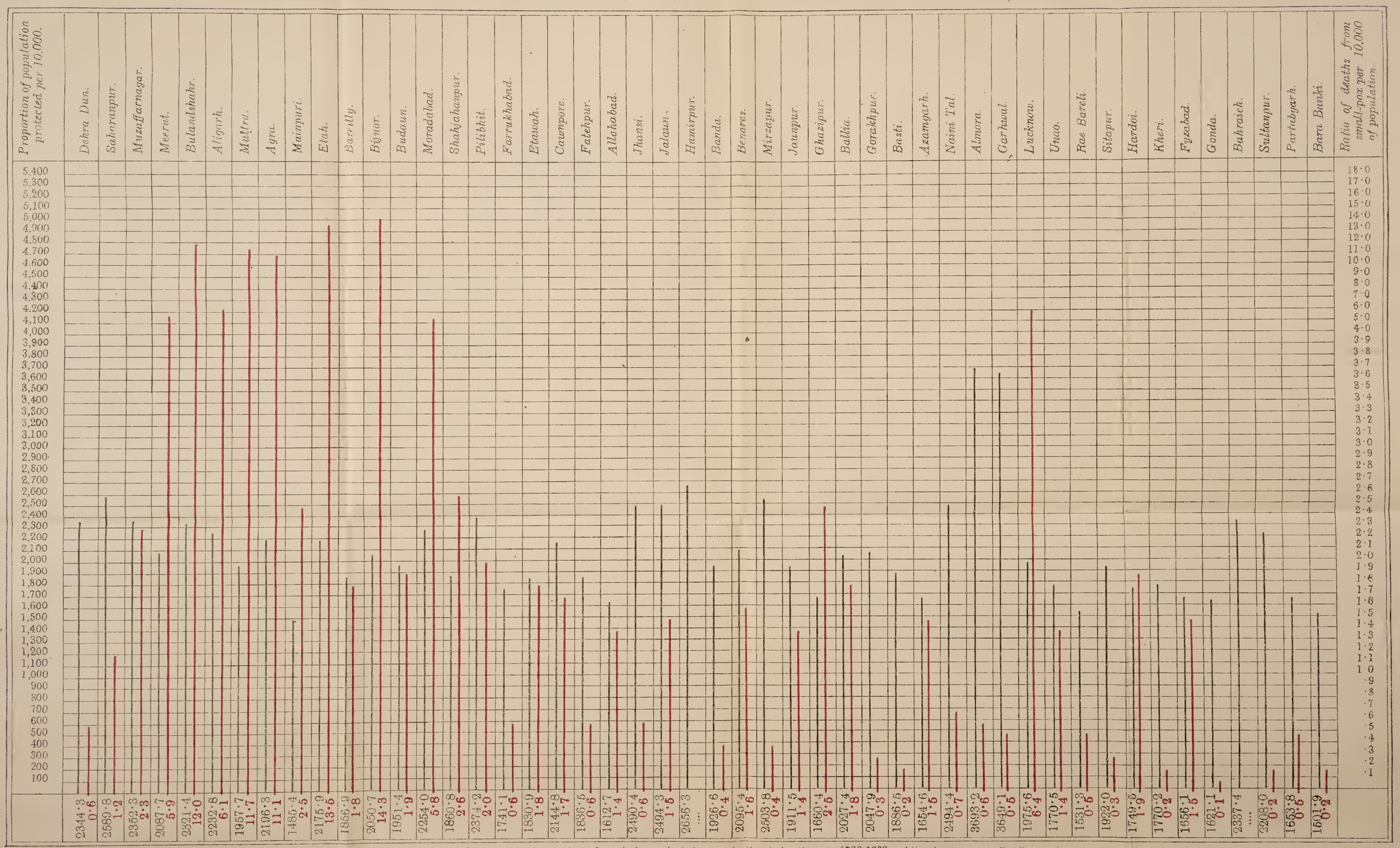
11. The appended diagram illustrates the death-rate from small-pox and the protection afforded by vaccination in each district.

Vaccination in municipalities.

12. During the year 1929-30 the total number of persons vaccinated and the total number of vaccination operations performed in municipalities were 168,077 and 171,940 (117,422 primary and 54,518 re-vaccinations), respectively, as compared with 162,755 and 167,765 (118,724 primary and 49,041 re-vaccinations), respectively, in the preceding year. The ratio of persons successfully vaccinated per mille of the population was 41·23 as compared with 39·81. This is satisfactory.

Among the municipalities showing the highest degree of protection, Mussoorie again stood first with a ratio of 340·24, followed by Etah with 138·79, Almora with 99·13, Naini Tal with 97·96 and Orai with 73·47. The municipalities showing the least protection were Shahjahanpur (23·10), Mainpuri (27·38), Kanauj (27·88), Farrukhabad (29·69) and Fyzabad (29·69). Of these Kanauj and Farrukhabad showed an improvement over last year, while Mainpuri remained stationary. The decrease in Fyzabad

Diagram showing the relation between the death-rate from small-pox and the proportion of population protected by vaccination in each district of the United Provinces.



The black lines and figures indicate proportion of population protected by vaccination during the year 1929-1930 and the six years preceding it.
The red lines and figures indicate the death rate from small pox during 1930.

GOVERNMENT PRESS, ALLAHABAD.

18 30

is attributed to low birth-rate and in Shahjahanpur to defective registration.

Appendix B shows the number of successful vaccinations performed on children under one year of age in the different municipalities during the year under review, the total number of such operations being 77,392 against 78,444 in the preceding year.

Vaccination in Cantonments.

13. During the year under report 16,115 persons were vaccinated and 16,162 operations (5,721 primary and 10,441 re-vaccinations) were performed by the vaccination staff in cantonments as against 18,389 and 18,523 (6,974 primary and 11,549 re-vaccinations), respectively, in the preceding year. The number of successful primary vaccinations and successful re-vaccinations during the two years were 5,190, 5,358; 6,197 and 6,035, respectively. The number of persons successfully vaccinated per 1,000 of the population was 52·73 in 1929-30 as against 61·15 in 1928-29. The attention of the authorities concerned will be drawn to the decreased vaccination. Of the cantonments showing best protection Chakrata stood first with 979·44, followed by Ranikhet with 266·79, Landaur with 152·31 and Cawnpore with 109·03.

In addition the military medical officers in cantonments performed in the calendar year 1929 14,762 operations (228 primary and 14,534 re-vaccinations), out of which 9,803 (164 primary and 9,639 re-vaccinations) were successful. The corresponding figures of the year 1928 were 11,275 (993 primary and 10,282 re-vaccinations) and 8,157 (820 primary and 7,337 re-vaccinations), respectively.

Vaccination in notified areas.

14. The number of persons vaccinated and that of vaccination operations performed in the notified areas during the year under report were 18,241 and 18,772 (15,317 primary and 3,455 re-vaccinations) as compared with 15,780 and 16,251 (14,905 primary and 1,346 re-vaccinations), respectively, in the preceding year. The total number of successful primary vaccinations amounted to 13,687, and that of successful re-vaccinations 970 as against 13,566 and 459, respectively, in the year 1928-29. The ratio of persons successfully vaccinated per 1,000 of the population was 39·05 as against 36·69.

Of the well protected notified areas Chunar Settlement in the Mirzapur district again stood first with a ratio of 166·18, followed by Bhim Tal (Naini Tal) with 104·26, Gorakhpur with 71·19, Moghal Sarai (Benares) with 67·08 and Kosi (Muttra) with 66·34. The worst protected notified areas were Rikhikesh (Dehra Dun) with 11·34, Rajpur (Dehra Dun) with 20·08, Karwi (Banda) with 24·65 and Ramnagar (Naini Tal) with 25·14. The attention of the authorities concerned has been drawn to the fact.

Vaccination of school children.

15. During the year under report the inspection of school children for vaccination was, as usual, carried on by the public health staff. A reference is invited to paragraph 20 of section X of this report.

Application of the Vaccination Act.

16. The Vaccination Act is in force in all municipalities, cantonments and notified areas, except in the notified area Bindki (Fatehpur). The District Magistrate, Fatehpur, has been asked to take steps to extend the provisions of the Act to this area.

During the year under report the provisions of the Act were extended to all the town areas in the Gorakhpur and Bulandshahr districts.

Compulsory vaccination in rural areas.

17. As stated in the last year's report, the United Provinces Vaccination Bill for making vaccination compulsory in rural areas was published in the Gazette for general information, but could not be presented to the Council for certain reasons.

General results of inspection. (Vaccination statement V.)

18. (*a*) *By Assistant Directors of Public Health and District Superintendents of Vaccination.*—The total number of vaccinations inspected by the Assistant Directors of Public Health and District Superintendents of Vaccination during the year 1929-30 amounted to 210,791 (208,102 primary and 2,689 re-vaccinations) as against 202,714 (200,642 primary and 2,072 re-vaccinations) in the preceding year showing an increase of 8,077. The percentage of inspections to total number vaccinated was 14·38 as regards primary vaccinations and 1·57 as regards re-vaccinations, as against 14·18 and 1·51, respectively, in 1928-29. The district of Gorakhpur showed the highest number (13,210) of inspections made by these officers, Jaunpur which was first last year stood second this year with 12,821 inspections. Then came in order Moradabad with 11,479, Hardoi with 11,231 and Kheri with 10,220. The districts showing the smallest number of inspections were Farrukhabad (76), Banda (155), Almora (265), Naini Tal (483) and Shahjahanpur (615). No inspections were made in the districts of Dehra Dun, Saharanpur, Garhwal and Cawnpore.

(*b*) *By Assistant Superintendents of Vaccination and other inspecting officers.*—The work under this head also shows an increase of 34,741 inspections in 1929-30 as compared with 1928-29, the figures for the two years being 666,976 (612,686 primary and 54,290 re-vaccinations) and 632,235 (593,546 primary and 38,689 re-vaccinations), respectively. The percentage of inspections to total number vaccinated was 42·33 for primary and 31·78 for re-vaccinations as against 41·94 and 28·16, respectively, in 1928-29. As usual the largest number of inspections (45,107) was made in the Gorakhpur district where there are two permanent and one temporary assistant superintendents of vaccination. Almora and Bareilly which were third and fourth last year occupied the second and third positions this year with 32,084 and 24,623 inspections, respectively. Agra which was second last year receded two steps lower with 23,758. Basti and Garhwal retained their fifth and sixth positions of the last year with 19,366 and 19,196, respectively.

Among the districts showing the smallest number of inspections the most conspicuous were Dehra Dun (4,989), Aligarh (5,683), Fatehpur (6,293), Mainpuri (7,002) and Kheri (7,125). All these districts, except Fatehpur, however, showed an increase over last year. The attention of the district medical officers of health and the civil surgeons concerned will be called to the matter.

Banda, as in the last two years, returned the highest percentage of inspections of primary operations performed by these officials (87·20) to total number vaccinated. Almora followed with 76·56, Naini Tal with 73·72 and Partabgarh with 67·32. The lowest percentages were noticed in the districts of Aligarh (15·51), Meerut (20·87), Azamgarh (25·61) and Bulandshahr (26·21).

(c) *Verification of the percentage of successful vaccinations.*—According to the statistics furnished by vaccinators the percentages of successful operations for the province were 94·72 in the case of primary and 43·70 in the case of re-vaccinations, while these were found to be 93·32 and 36·39, respectively, on inspection by the Assistant Superintendents of Vaccination and 92·92 and 40·59 by the Assistant Directors of Public Health and District Superintendents of Vaccination out of the cases inspected by these officers.

Occurrence of cases of encephalitis following vaccination.

19. No cases of encephalitis following vaccination were noticed by any of the inspecting officers during the year under report except one in the Ghazipur municipality.

Provincial Bovine Lymph Dépôt, Patwa Dangar (district Naini Tal).

20. The charge of the dépôt was held by Major E. H. Morbey from April 1 to 12, 1929 and from November 15, 1929 to March 31, 1930. During the period of his absence on leave ex-India from April 13 to November 14, 1929, Major D. Clyde, I.M.S., Assistant Director of Public Health (Malariology), held collateral charge of the dépôt.

(a) *Supply of calves.*—The contract for the supply of calves was given to a butcher of Bareilly at Rs. 13 per calf. The calves supplied by him on the whole were of a very inferior standard and generally in a very poor condition.

At the beginning of the vaccination season the contractor sent up calves suffering from rinderpest, with the result that an epidemic occurred in the dépôt causing 75 deaths among the calves.

During the year under report the total number of calves purchased and obtained on fee locally was 608 (94 cow and 514 buffalo calves) against 529 (118 cow and 411 buffalo calves) in the preceding year.

Out of 608 calves 579 were successfully vaccinated, 7 failed and 22 died.

The 608 calves were disposed of as follows :—

—	Buffalo.	Cow.
1. Sold to the branch institute of Veterinary Research, Izatnagar.	428	4
2. Sold to private persons	..	42
3. Returned to owners	15	44
4. Died (22 unvaccinated and 53 vaccinated)	71	4
	514	94

(b) *Quantity of lymph obtained and manufactured.*—The quantity of crude lymph obtained during the year under report was 27,561·3 grammes from 579 successfully vaccinated calves giving an average product of 47·60 grammes per calf against 21,752 grammes from 519 calves with an average yield of 41·91 grammes per calf in the preceding year—an increase of 5·69 grammes per calf. The average yield of crude lymph

per cow and buffalo calf was 22·70 and 52·40 grammes, respectively, as compared with 15·97 and 49·38 grammes in the preceding year, showing an increase of 6·73 grammes per cow and 3·02 grammes per buffalo calf. During the year 137,806·5 grammes of glycerinated lymph of the strength of 1—5 were manufactured. The total quantity of lymph prepared for issue during the year under report was 181,433 grammes (1—5) as against 113,265¼ grammes—30,701¾ grammes (1—5) and 82,563½ grammes (1—7) and 2,538 grammes glycerine paste in the preceding year.

(*c*) *Issue of lymph.*—The total quantity of lymph issued for vaccination during the year was 114,752·5 grammes in metal collapsible tubes and 163,673 glass capillary tubes sufficient to vaccinate 3,032,485 persons as against 107,280 grammes in metal collapsible tubes and 143,843 glass capillary tubes and 3 grammes of glycerine paste sufficient to vaccinate 2,825,918 persons in the preceding year.

Out of the above quantity 316½ grammes in metal collapsible tubes and 2,116 glass capillary tubes to the value of Rs. 329 were issued free for use in jails and charitable institutions as compared with 316½ grammes in metal collapsible tubes to the value of Rs. 170 in the preceding year.

(*d*) *Lymph set aside in the cold storage plant.*—47,234·25 grammes of glycerinated lymph (1—5) and 10,110·5 grammes of seed lymph (1—5) were set aside in the cold storage for issue in 1930-31, as against 25,690·5 grammes of glycerinated lymph (1—3) and 497·5 grammes of glycerine paste set aside in the preceding year, which was issued during the year 1929-30.

(*e*) *Results of vaccination with the lymph issued.*—As many as 1,643,332 vaccinations (1,469,293 primary and 171,039 re-vaccinations) were performed with calf lymph during the year under review as compared with 1,569,529 (1,437,870 primary and 131,659) re-vaccinations in 1928-29.

In the following table are compared the results of vaccinations performed during the year under report with those performed in the preceding year:—

Period.	Primary vaccination.					
	Successful.		Unsuccessful.		Percentage.	
	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.
April to September ..	30,451	13,976	5,634	10,482	84·39	57·14
October to March ..	588,758	519,840	40,194	38,617	93·61	93·08
Total ..	619,209	533,816	45,828	49,099	93·11	91·58

Period.	Re-vaccination.					
	Successful.		Unsuccessful		Percentage.	
	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.
April to September ..	9,334	3,266	15,685	4,758	37·31	40·70
October to March ..	24,935	23,088	27,045	19,286	47·97	54·49
Total ..	34,269	26,354	42,730	24,044	44·50	52·29

(*f*) *Contract price of lymph.*—The cost of lymph supplied on the contract rates to the different local bodies in the United Provinces was realized in advance in full during the early part of the year under report.

Lymph was supplied to the military authorities on the annual contract of Rs. 1,220, while the value of lymph actually supplied came to Rs. 1,463, resulting in a net loss of Rs. 243 to the dépôt in the transaction.

(*g*) *Sales and expenditure of the dépôt.*—In 1929-30 lymph worth Rs. 22,505 was sold to district boards, Rs. 8,636 to municipalities, Rs. 3,227 to Indian States, Rs. 2,358 to private persons, and by value payable post Rs. 1,302 to notified areas and Rs. 728 to cantonments as against Rs. 22,505, 8,636, 2,258, 1,700, 1,262 and 713, respectively, in the preceding year.

The total income of the dépôt during the year was Rs. 45,617 (Rs. 39,976 from the sale of lymph and Rs. 5,641 from the sale of miscellaneous articles, namely, rabbits, calves, old machinery, etc.) as against total income in the preceding year of Rs. 43,911 (Rs. 38,294 from the sale of lymph and Rs. 5,617 from the sale of miscellaneous articles) or an increase of Rs. 1,706.

The total expenditure incurred on the dépôt during the year (including a non-recurring expenditure of Rs. 6,089 on account of cost of the new compressor, etc., Rs. 1,884 on account of pensionary charges of pensionable establishment and Rs. 1,000 on account of depreciation of machinery) was Rs. 48,864 as against Rs. 44,894 in the preceding year.

A comparison of the income with the expenditure of the dépôt during the year under report will show an apparent loss on the working of the dépôt, amounting to Rs. 3,247 (including pensionary and depreciation charges), but if the non-recurring expenditure of Rs. 6,089 on account of the cost of the new compressor and Rs. 3,358 on account of maintenance and upkeep of buildings and roads, which is not a fair charge debitable against the actual working of the dépôt, is excluded the resultant figure will show quite a wide margin of profit.

A table showing the annual output of lymph and the income and expenditure of the dépôt since its establishment is appended :—

Year.	Quantity of lymph issued.				Income.	Expenditure.
	Glycerinated lymph.		Glycerine paste.	Lanoline paste.		
	Tubes.	In bulk.				
		Grammes. Grs.	Grammes. Grs.	Grammes. Grs.	Rs.	Rs.
1904-5	21,049	Nil.	Nil.	79 0	106	3,300
1905-6	74,800	98 0	Nil.	120 0	2,057	7,789
1906-7	113,945	205 0	1,367 0	19 0	3,527	5,741
1907-8	198,224	Nil.	668 12	161 0	6,118	6,717
1908-9	243,722	3,806 3	749 0	4 0	8,572	12,573
1909-10	249,974	9,147 0	414 0	4 0	8,527	10,524
1910-11	358,939	9,392 0	45 0	6 0	14,211	12,097
1911-12	193,356	41,460 12	44 0	Nil.	18,780	13,030
1912-13	180,445	58,427 13	83 3	Nil.	24,019	14,894
1913-14	193,932	72,296 10	79 7	Nil.	28,867	17,247
1914-15	296,423	94,447 13	382 0	8 7	39,174	20,703
1915-16	150,347	83,110 7	66 0	Nil.	30,789	21,228
1916-17	169,880	82,960 0	36 6	Nil.	31,066	21,348
1917-18	172,462	86,658 12	Nil.	Nil.	32,681	21,910
1918-19	185,699	91,658 0	34 0	Nil.	32,836	25,297
1919-20	173,317	94,354 10	6 11	Nil.	35,430	31,547
1920-21	137,633	89,609 4	14 0	4 0	37,144	39,217
1921-22	135,448	87,093 12	6 0	Nil.	39,169	33,259
1922-23	331,668	69,436 12	5 0	Nil.	41,354	35,138
1923-24	89,693	86,993 12	11 0	Nil.	37,967	36,014
1924-25	108,281	86,332 8	4 0	Nil.	37,251	41,647
1925-26	123,047	93,056 4	4 0	Nil.	38,357	47,592
1926-27	145,087	101,693 0	263 0	Nil.	37,603	45,916
1927-28	136,259	113,851 12	15 8	Nil.	42,514	43,340
1928-29	143,843	107,280 0	3 0	Nil.	43,911	44,894
1929-30	162,673	114,752 8	Nil.	Nil.	45,617	48,864

(*h*) *Cold storage plant.*—During the year under report a new Haslam and Newton compressor was erected and the cold storage chambers overhauled by Messrs. Balmer, Lawrie and Co., Calcutta, at a cost of Rs. 6,089. The plant is working satisfactorily.

(*i*) *Electric installation.*—The electric installation also worked satisfactorily. The whole of the old electric lighting plant and machinery was disposed of and the amount of Rs. 1,350 was realized.

(*j*) *Roads.*—Owing to the widening and tarring of the main motor road the Public Works department asked permission to relay our pipe-line. This was necessary as they were laying a concrete drain on the inside of the road and as the dépôt pipe-line was laid immediately under the part of the road where the drain would be laid. The reasons for this were obvious as had the dépôt line become blocked or broken it would have been necessary to remove the drain to get at the pipe. It was eventually arranged for the Public Works department to relay the pipe-line on the outside of the motor road, and by so doing it gave a better flow of water.

(*k*) *Audit.*—The accounts of the dépôt were audited during the year.

It has been suggested that a register of civil works be maintained in the dépôt. As this will entail a considerable amount of work which is beyond the capacity of the present staff to cope with, it is very necessary to appoint a store-keeper to keep the stock books and the registers of civil accounts in the manner required by the auditors. The matter will be referred to Government separately.

(*l*) *Staff.*—The staff of the dépôt worked on the whole satisfactorily. A revised scale of pay for the laboratory assistants attached to the dépôt was recommended to Government, but owing to financial stringency funds could not be provided by them. This will be included in the schedule of new demands for 1931-32.

District annual vaccination returns.

21. During the year under report the district annual returns were again received late from certain districts. The officers concerned will be addressed on the subject.

General remarks.

22. (*a*) *Experiment with a modified method of vaccination.*—Further experiments in the modified method of vaccinating persons by three vertical incisions and omitting the cross-incisions with a view to minimise the chances of ulceration initiated last year were conducted during the year under review in the districts of Naini Tal, Bulandshahr and Agra. The results achieved are summarised below :—

Naini Tal.—The percentage of ulceration with the modified method was 2·04 in the case of primary and 0·77 in the case of re-vaccinations as compared with 5·22 and 2·09, respectively, with the usual method, while last year the percentage of ulceration with the modified method was found to be 1·96 for primary and 1·40 for re-vaccinations against 8·21 and 5·26, respectively, with the usual method. The percentages of successful operations were 90·74 and 96·79, respectively, in the case of primary and 36·65 and 53·34 in the case of re-vaccinations. It will be seen that ulceration was less by 3·18 per cent. and 1·32 per cent. in the case of primary and re-vaccinations, respectively, while the percentage of successful cases by modified method decreased by 6·05 per cent. as regards primary and 16·69 per cent. as regards re-vaccinations.

Bulandshahr.—The district medical officer of health inspected only 26 children out of 3,773 vaccinated by the modified method. He has been requested to inspect at least 200 more to arrive at some conclusion.

Agra.—It is reported that no difference was experienced in the case of primary vaccinations performed by old or new method, but in the case of re-vaccinations the old method was more successful. No ulcerations were detected among persons vaccinated by the new method as well as among persons vaccinated by the old method. More extended trial is necessary to arrive at a satisfactory conclusion.

(*a*) *Supply of vaccine instruments on payment.*—Up to the last year vaccine needles, vaccine ivory points and wooden boxes used to be supplied to the vaccination staff free of cost. During the year under report it was decided by Government that these articles should in future be charged and price realized from the local bodies concerned.

SECTION VIII (omitted).

SECTION IX.

Municipal water-supplies.

Statements showing the results of the chemical and bacteriological analyses of municipal water-supplies for the year 1928-29 prepared in the Provincial Hygiene Institute were, as usual, submitted to the Provincial Board of Public Health. At Lucknow the average rate of filtration in the slow sand filters was high and the fact was brought to the notice of Government by the Superintending Engineer, Public Health department, more than once. The number of samples taken at Mirzapur, Mussoorie, Naini Tal, Dehra Dun, Unao and Fyzabad, not being in accordance with the rules prescribed by Government, the attention of the municipal boards concerned was drawn to the fact.

Benares water-supply.

2. At Benares 31·5 gallons of water were consumed daily per head of the population in 1929 against 35·4 in the preceding year. The decrease in the consumption of water is stated to be due to new mains having been laid to separate the high and the low zones to prevent wastage. 1,774 house connexions were made during the year, bringing the total number at the close of the year to 14,612.

The medical officer of health of Benares analysed 47 samples of water chemically and 589 bacteriologically. All the former were satisfactory, while of the latter six gave unsatisfactory results.

Lucknow water-supply.

3. At Lucknow the daily average consumption of water per head of the population in 1929 was practically the same as in the preceding year (viz., 23·7 gallons). The total number of house connexions at the close of the year was 9,968 against 9,344 in 1928. Four samples of water were analysed chemically and were declared potable. Out of the 225 samples analysed bacteriologically, 101 were found unsatisfactory. A special inquiry was made by two officers of the department into the working of the Lucknow installation of both the slow and rapid filters, and as a result of their recommendations an expert opinion was obtained on the working of the rapid filters. At the termination of the monsoon the results of analysis of this water-supply greatly improved, practically all samples both from the clear water reservoir and standposts showing satisfactory results. With the addition of a new rapid filter further improvement of this water-supply can be confidently looked for. All these tests were carried out at the Provincial Hygiene Institute.

Cawnpore water-supply.

4. At Cawnpore the average quantity of water consumed daily per head of the population in 1929 was 37·8 against 33·1 in 1928. The rise in the daily consumption of water is attributed to the maintenance of high pressure throughout the day since the installation of electric pumps. The total number of house connexions up to the end of December, 1929 was 8,859, 491 connexions having been made during the year under report. Eight samples of water were examined chemically and found satisfactory. The total number of samples of water analysed bacteriologically was 1,812.

Of these 163 were found unsatisfactory as below standard—60 for total colony count and 103 for lactose fermenters. All the samples were analysed by the medical officer of health.

Agra water-supply.

5. At Agra the quantity of water consumed daily per head of the population in 1929 was 30·4 as compared with 27·5 gallons in 1928. The increase is attributed to (1) the increased number of standposts and house connexions, (2) the extension of the pumping hours, and (3) the prolonged supply of water during Hindu and Muhammadan festivals. The total number of house connexions since the opening of water-works up to the end of December 1929 was 5,106 against 4,920 in 1928.

All the six samples of water analysed chemically were reported to be good. Four hundred and ten samples were analysed for colony count and 102 for B. Coli tests with satisfactory results. All the samples were analysed by the medical officer of health.

Allahabad water-supply.

6. At Allahabad the daily consumption of water per head of the population during 1929 was 33·5 gallons as compared with 29·8 gallons in 1928. The increase is reported to be due to reorganization of water-works plants, which are at present run by electricity and which have a greater capacity for the supply of water. The total number of house connexions is now 6,460 against 5,849 in the preceding year. Eight samples of water were analysed chemically. Two samples showed free amonia a little above the standard. The results on the whole were, however, good. The number of samples analysed bacteriologically, excluding 27 samples from the mela area and 49 samples of drains, was 560. Of these 16 samples were reported to be unsatisfactory. All the samples were analysed by the medical officer of health.

Mirzapur water-supply.

7. At Mirzapur the daily consumption of water per head of the population of the area having piped water-supply was practically the same as in 1928, viz., 18·5 gallons. The number of house connexions is now 2,583. Of these 86 were made in 1929.

Altogether 57 samples of water were analysed by the medical officer of health—two chemically and 55 bacteriologically—and yielded satisfactory results.

Muttra water-supply.

8. At Muttra 14 gallons of water were consumed daily per head of the population during the year under report against 15·6 gallons in the preceding year. The total number of house connexions at the close of the year was 1,725 against 1,577 in 1928. Three samples of water were analysed chemically and 188 bacteriologically. All the former showed good results, while of the latter two contained over 100 colonies per c. c. All the analyses were made by the medical officer of health.

Meerut water-supply.

9. At Meerut the quantity of water consumed daily per head of the population during 1929 was practically the same as in 1928, i.e., 14·7 and 14·8 respectively. The total number of house connexions at the close of the year was 1,906. Eight samples of water were analysed chemically and 414 bacteriologically—all with satisfactory results. All the samples were analysed by the medical officer of health.

Dehra Dun water-supply.

10. At Dehra Dun the daily consumption of water per head of the population during the year under report was nine gallons as in the preceding three years. Eight new connexions were made in 1929 bringing the total at the end of the year to 56. Out of ten samples of water analysed chemically nine were declared potable and one unsatisfactory. Sixty samples were analysed bacteriologically. The results were generally unsatisfactory. All the samples were examined by the Assistant Director of Public Health (Provincial Hygiene Institute), except one which was analysed by the officer in charge Brigade Laboratory, Dehra Dun.

Mussoorie water-supply.

11. At Mussoorie 26·6 gallons of water were consumed daily per head of the population in 1929 against 25·8 in 1928. The supply was extended to Landaur Cantonment from April 1, 1929. At the end of the year under report house connexions numbered 628 against 617 in 1928. Five samples of water were examined chemically and 156 samples bacteriologically by the medical officer of health. All the former were reported very hard, while of the latter six gave unsatisfactory results.

Naini Tal water-supply.

12. At Naini Tal 12 gallons of water were consumed daily per head of the population in 1929 against 8·8 gallons in 1928. The increase is stated to be due to the flushing of drains. The number of house connexions rose from 346 in 1928 to 406 in 1929. Four samples of water were analysed chemically and though hard were declared potable. Of the 93 samples analysed bacteriologically 27 were unsatisfactory. The chemical analyses of three samples were done by the Assistant Director of Public Health (Provincial Hygiene Institute) and of one by the medical officer of health, Naini Tal. The bacteriological analyses were done both at the Provincial Hygiene Institute, Lucknow, and the Kailakhan Laboratory, Naini Tal.

Hardwar water-supply.

13. At Hardwar the daily consumption of water per head of the population in 1929 was 19·2 against 9 gallons in the preceding year. The increase is reported to be due (1) to a number of connexions having been made specially in dharamshalas and lodging houses, etc., (2) to the erection of more buildings within the water-supply area, and (3) to the use of a very large quantity of water from drain scouring cocks for flushing the drains. These cocks were not provided in previous year in Hardwar and have subsequently been disconnected because of such a high consumption. The total number of house connexions at the close of the year was 187, of which 51 were made during the year under report. All the ten samples of water analysed chemically were reported to be potable. 191 samples were analysed for colony count and 183 for Coli test. All of these except 21 gave satisfactory results. All the samples were analysed by the medical officer of health.

Unao water-supply.

14. During 1929 the quantity of water consumed daily per head of the population at Unao was 9·9 gallons against 7·7 gallons during 1928. The total number of house connexions since the opening of water-works to the end of December, 1929 was 176, 15 connexions having been made in 1929. Two samples of water were analysed chemically and declared to be potable. Of the nine samples analysed bacteriologically five were unsatisfactory. All

the samples were analysed by the Assistant Director of Public Health (Provincial Hygiene Institute), United Provinces.

Fyzabad water-supply.

15. At Fyzabad during the year under report 13·9 gallons of water were consumed daily per head of the population of the area using the piped water-supply against 12·8 in 1928. The total number of house connexions since the opening of the water-works to the end of 1929 was 1,028, 75 connexions having been made in 1929. One sample of water was analysed chemically and 62 bacteriologically by the medical officer of health and the results were satisfactory.

Jhansi water-supply.

16. At Jhansi during the year under report 5·5 gallons of water were consumed daily per head of the population of the area using the piped water-supply. The total number of house connexions since the opening of the water-works up to the close of the year was 78. Only two samples of water were analysed bacteriologically at the Provincial Hygiene Institute and the results were unsatisfactory.

Municipal laboratories.

17. As stated in the last year's report in nearly all the municipalities having piped water-supplies, viz., Benares, Cawnpore, Agra, Allahabad, Muttra, Meerut, Mussoorie, Mirzapur, Fyzabad and Hardwar, the analysis of samples of water is being done by the medical officers of health in municipal laboratories.

SECTION X.

Personal proceedings, public health services and general remarks.

A.—Personal proceedings.

Lieut.-Colonel C. L. Dunn, C.I.E., D.P.H., I.M.S., held charge of the Public Health department throughout the year.

During the year, he visited Allahabad, Cawnpore, Agra, Meerut, Bareilly, Dehra Dun, Bara Banki, Balrampur and Mussoorie to discuss public health matters with the authorities concerned. Some towns and villages were also visited by him in connexion with the Village Aid Scheme. He also inspected the sanitary arrangements of the Magh Mela and the Child welfare centre at Allahabad and the Ghaziuddin Hyder canal at Lucknow.

The Government Bovine Lymph Dépôt, Patwa Dangar, was, as usual, inspected more than once.

Having been appointed a member of the Legislative Council he attended various meetings of the Council. He also attended the meetings of the Board of Public Health, the Faculty of Medicine, Lucknow University, the Kumbh Mela, Allahabad, the Committee on Courses of Studies for the D. P. H., the Indian Red Cross Society, Allahabad, the State Medical Faculty, the United Provinces Medical Council, the Public Health Service Association, the Leprosy Committee, the Lucknow University, the Lady Chelmsford Maternity and Child Welfare League, United Provinces branch, the Building Board, and the Select Committee on the United Provinces Prevention of Adulteration Act.

He discussed with the Agent, Bengal and North-Western Railway, at Gorakhpur and with the Directors of Public Health, Punjab and Bihar and Orissa at Allahabad on various questions relating to pilgrim traffic during large fairs and especially during the Kumbh fair of 1930 with a view to prevent the spread of cholera.

He conducted the examinations of sanitary inspectors and of final membership of Agra Medical School. He also gave oral evidence before the Labour Commission at Cawnpore.

B.—Assistant Directors of Public Health.

2. *First Range.*—The charge of the range was held by Rai Bahadur Dr. K. L. Chaudhri, O.B.E., D.P.H., from January 1 to 19, 1929, and again from April 15 to the end of the year. During the period from February 7 to April 14, 1929, the charge of the range was held by Dr. H. S. Dube, D.P.H.

Dr. Dube inspected vaccination work in the district of Agra and in the towns of Amroha, Bareilly, Pilibhit, Budaun, Kasganj, Agra, Hapur, Bilsi, Sahaswan, Soron, Sikandra Rao, Hathras and Ghaziabad. He supervised the medical and sanitary arrangements of the Mahabarni and Dikhauti fairs at Hardwar and visited Hathras in connexion with an enquiry into the conduct of a sanitary inspector and Muttra to inspect famine test works.

Dr. Chaudhri inspected vaccination work in the districts of Muzaffarnagar, Saharanpur, Etah and Mainpuri and in the towns of Meerut, Hapur, Bulandshahr, Khurja, Aligarh and Sikandra Rao. He visited

Dehra Dun in connexion with the inspection of sanitation, organization of conservancy work and opening of a municipal laboratory in the infectious diseases hospital.

The medical and sanitary arrangements of the following fairs were organized and supervised by him :—

Makar Shankrant	...	...	...	Hardwar.
Mahabarni	...	...	...	Hardwar.
Dikhauti	...	...	...	Hardwar.
Dasehra	...	...	...	Hardwar.
Solar eclipse	...	...	...	Hardwar.
Somwati Amawas	...	...	...	Hardwar.
Piran Kaliar	...	...	...	Saharanpur district.
Shah Kumber Devi	...	...	...	Saharanpur district.
Garhmuktesar	...	...	...	Meerut district.
Tigri ...	...	...	...	Moradabad district.
Batesar ...	...	...	...	Agra district.

He also inspected the sanitary arrangements of the Muzaffarnagar and Saharanpur exhibitions and organized those at the famine test works at Farrah and Bajna in the Muttra district. Dehra Dun was visited in connexion with the selection of a site for a new police office and Rikhikesh and Brindaban in connexion with the selection of sites for infectious diseases hospitals. Piran Kaliar and Roorkee were visited in connexion with the fair arrangements and piped water-supply scheme there. He paid a visit to Meerut to enquire into the work of the maternity and child welfare and into the outbreak of cholera in the Meerut jail. Muttra was visited in connexion with anti-cholera measures.

Village Nagla Khurd in the Saharanpur district was inspected in company with the sub-divisional officer in connexion with the construction of a model village and the layout of a model town on Rikhikesh road was prepared under his direct supervision. Saharanpur and Ghaziabad were also visited in connexion with the arrangements made for medical inspection of passengers at those stations. He made necessary arrangements at Pilibhit in connexion with the visit of the Malaria Commission of the League of Nations and inspected a factory there. He attended meetings of the Hardwar Advisory Committee and the maternity and child-welfare and the rural uplift committees in Meerut. He inspected four schools and 326 scholars and three public health travelling dispensaries.

He inspected anti-rat campaigns in the municipalities of Bareilly, Moradabad, Saharanpur, Muttra, Agra, Dehra Dun, Muzaffarnagar and Saharanpur. Anti-rat campaigns were extended to the districts of Moradabad and Bulandshahr and the towns of Sambhal, Tilhar, Dehra Dun, Baheri and Muzaffarnagar during the year. The working of the district health scheme and of travelling dispensaries in the range was inspected. He visited Gokul in the Muttra district in connexion with a proposed drainage scheme and delivered a lecture on its advantages to the residents of the place.

Samples of water from the water-supplies at Muttra, Meerut and Hardwar were taken and analysed by him as a counter check.

Second Range.—The charge of the range was held by me throughout the year. I also held charge of the Epidemiology branch in addition to the ordinary duties of the range.

I inspected vaccination work in the districts of Gonda, Bahraich, Sitapur, Kheri, Unao, Hardoi, Lucknow, Bara Banki, Fyzabad, Sultanpur, Partabgarh and Rae Bareli, including municipalities and town areas, in all these districts except Lucknow, Unao and Hardoi. The sanitation of the Bahraich, Fyzabad, Sultanpur, Partabgarh, Rae Bareli, Gonda, Unao, Sitapur, Lakhimpur and Hardoi municipalities was also inspected. I inspected the working of the district health services in the districts of Bahraich, Sitapur, Lakhimpur, Unao, Hardoi, Bara Banki, Fyzabad, Sultanpur, Partabgarh, Rae Bareli and Gonda and supervised anti-cholera measures in Gonda, Bahraich, Sultanpur, Partabgarh, Kheri and Fyzabad.

The medical and sanitary arrangements of the Ram Naumi, Sawan Jhula and Kartiki fairs at Ajodhya were supervised by me. I conducted the D. P. H. and L. P. H. examinations as also the supplementary examinations for D. P. H. and L. P. H. qualifications. I also visited Unao in connexion with an outbreak of plague and Gonda and Bahraich in connexion with the medical and sanitary arrangements in the famine relief camps. The proposed sites for the reserve police lines and the Infectious Diseases Hospital at Lucknow as well as the Lucknow Water-Works were inspected. I also inspected 30 schools under the treatment of "Simple Ailment Scheme" and four villages under the Village Aid Scheme in the Sitapur district and some villages under the Village Aid Scheme in the districts of Unao and Hardoi. A model village named "Meri umed" (My hope) built in the Gonda district was also inspected. I made arrangements for medical inspection of passengers at Gonda, Lakarmandi ghat, Mankapur, Ajodhya and Partabgarh railway stations in connexion with the Kumbh fair at Allahabad. I conducted the analysis of water of the Fyzabad water-supply.

Third Range.—The charge of the range was held by Dr. K. P. Mathur, D.P.H., throughout the year. He supervised the medical and sanitary arrangements of the Magh Mela, Allahabad, and inspected those of the Ram Naumi fairs at Bindhachal and Chitrakote (Banda). Benares was visited in connexion with the preliminary arrangements for the solar eclipse fair and Ballia in connexion with those of the Dadri fair. The medical and sanitary arrangements of these fairs were also supervised by him.

He attended several meetings on different occasions in connexion with the preliminary arrangements for the Allahabad Kumbh fair of 1930. Matters affecting sanitation of the Allahabad Fort during the Kumbh fair were also discussed by him.

During the greater part of the period of his stay at the headquarters from October to the end of the year, he was engaged in organising the medical and sanitary arrangements of the Kumbh fair. A conference of the Directors of Public Health, Punjab, Bihar and Orissa and the representatives of the East Indian Railway and others held to discuss arrangements for the sanitation of the Kumbh Mela and for the prevention of epidemic disease was also attended by him and the railway arrangement on the Great Indian Peninsula Railway discussed with the Principal Medical and Health Officer, Great Indian Peninsula Railway in Jhansi.

The districts of Jaunpur, Allahabad, Azamgarh, Ballia, Ghazipur, Banda, Jhansi, Gorakhpur, Cawnpore and Etawah were visited in connexion with outbreaks of cholera. Ghazipur was also visited in connexion with an outbreak of plague. An enquiry was made into an outbreak of

scurvy in the Azamgarh jail. Dr. Mathur inspected vaccination work in the districts of Banda, Farrukhabad, Cawnpore, Fatehpur and Allahabad and the sanitation of the Fatehpur and Azamgarh municipalities and Kaimganj and Mahoba notified areas. The working of the village aid scheme in the districts of Ghazipur, Fatehpur and Allahabad was also inspected. He inspected the segregation huts constructed at the railway stations Janghai, Shahganj, Karwi, Ballia, Gorakhpur and Bhatni, the site for the new police station at Moosanagar in the Cawnpore district and a number of travelling dispensaries. Instructions on public health subjects were imparted to the people of the villages and towns visited.

The examination of the D. P. H. and L. P. H. classes, Part I, was conducted at Lucknow. He took samples of water from the municipal water-works, Cawnpore.

C.—Public Health Services.

The Provincial Hygiene Institute.

3. Rai Bahadur Dr. D. D. Pandya, D.P.H., held charge of the Provincial Hygiene Institute throughout the year. On return from study leave Dr. J. T. Cornelius, D.P.H., Ph.D., resumed charge of his duties as first lecturer on January 2, 1929. He completed his research study at the Lister Institute, London, and a paper embodying the results of his study was published in April, 1929 in the British Journal of Pathology and Bacteriology and a thesis submitted by him has gained for him the degree of Ph D. in the University of London. Dr. H. G. D. Mathur, Dr. P.H , the officiating first lecturer, on being relieved by Dr. Cornelius reverted to the post of second lecturer which he held throughout the year except the period from May 1 to August 31, 1929, during which he was on leave. Dr. B. S. Yajnik, D.P.H., worked as officiating second lecturer on January 1 and from May 1 to June 26, 1929, and as a temporary third lecturer from January 2 to April 30, 1929. Dr. K. N. Segal, D.P.H., worked as officiating second lecturer from June 27 to August 31, 1929, and as a temporary third lecturer from September 1 to the end of the year.

Building.—The building was completed during the year and the cooling chamber which has been installed is now nearing completion.

Much inconvenience for lack of accommodation is experienced when several classes are conducted simultaneously and also for want of an examination hall when written examinations of large classes are held.

The necessity for the extension to the building of the Provincial Hygiene Institute is keenly felt in order to provide suitable accommodation for the Malariology and the Hygiene Publicity Branches and the office and analytical laboratories of the Public Analyst. Of these three the accommodation for the last one is the most urgently needed inasmuch as it is already difficult for the existing staff to work in the restricted accommodation allowed by the Canning College authorities. Besides, the College authorities are not willing to allow their laboratories to be used for the Public Analyst's work for an indefinite period. Government have been repeatedly informed of the above facts and requested to provide funds for the extension of the building but owing to financial stringency they have not so far been able to do so. It is hoped that Government will see their way to make provision in the budget for 1931-32.

Museum.—In the year under review additional models were added to the existing collection. The museum has been a centre of attraction to many of the visitors who come to see the Provincial Hygiene Institute. About 200 visitors came to see the museum during the year and among

them were distinguished visitors like Sir Phillip Hartog and Dr. Schueffner and other members of the Malaria Commission. They expressed their appreciation of the great Public Health Educational value of the collections in the museum which has commenced to function as a useful disseminating centre of Public Health information.

Library.—During the year 1929, only a few important books were purchased for the library. It is proposed to add this year a sufficient number of important books, and as soon as they are received they will substantially add to the existing collection of works of Public Health interest in Bacteriology, Chemistry, Hygiene, Dietetics, etc.

It is hoped that from year to year books will be added so as to enhance the value of the Library as a central reference library for the department.

A large number of British, Indian and foreign Medical and Public Health journals and reprints of Scientific articles are being collected for the library.

Teaching work.—The details of teaching work carried out at the Institute are given in the following table :—

Statement showing the number of students trained and examined at the Provincial Hygiene Institute during 1929.

Name of class.	Session 1928-29.							Session 1929-30
		Examination April 1929.			Supplementary examination October, 1929.			
	Number of students in the class.	Month.	Number appeared including those who failed at the previous examinations.	Number of successful candidates.	Month.	Number appeared.	Number of successful candidates.	Number of students in the class.
Undergraduates undergoing training for the M.B., B.S., degree in Hygiene.	38	April 1929	45	33	October.	12	9	42
Post graduates (members of the P. M S.).	2	..	No examinations.			..	..	..
D. P. H. Part I ..	18	April 1929.	16	12	October.	3	2	15
D. P. H. Part II ..	8	"	9	7	"	2	2	14
L. P. H. Part I ..	20	"	20	14	"	5	5	19
L. P. H. Part II ..	20	"	15	9	"	11	5	19
Sanitary Inspectors Part I.	76	February	76	37	..	..	..	38
Sanitary Inspectors Part II.	*71	"	71	60	Nov.	*10 †35	7 26	10 35
Chief Sanitary Inspectors.	..	"	6	1	..	..	..	..
Laboratory attendants under training during 1929.	1	..	..	..	..	..	..	..
Health visitors :—								
Part II	4	April	4	4	..	..	..	..
Part I	10	Nov.	10	10	..	..	..	10
Post graduates (Medical Officers of Health).	9	..	..	..	..	..	..	..

*Under old rules in Minor Sanitary Engineering.
†Under new rules.

Post graduate course in Public Health.—A special course was started for the first class Medical Officers of Health in October, 1929. The course was conducted by the Assistant Director of Public Health and the officers of the Institute as well as other officers of the Public Health department.

Health School.—The Health school for the training of Health Visitors which was opened in October, 1928 under the United Provinces branch of the Lady Chelmsford Maternity and Child Welfare League, has been shifted to a hired bungalow in Sunderbagh. Dr. D. F. Das continues to hold charge of the school as Lady Superintendent of the school. A new centre at Ganeshganj has been opened, where the students receive their practical training. Ten students have been enrolled in the class of Health Visitors during this year.

Routine and investigative work carried out at the Laboratories of the Provincial Hygiene Institute during the year is given below.

(*a*) *Bacteriological.*—Examination of 14 brands of patented disinfectants to determine the carbolic acid co-efficient in order to compare their germicidal values.

(*b*) Microscopic examination of samples of sputum, blood, stools, etc., at the request of Medical Officers of Health.

(*c*) Post mortem examination of rats received from different wards of Lucknow Municipality for evidence of infection with B-pestis.

(*d*) Routine examination of samples of water from public water supplies in Lucknow, Dehra Dun, Naini Tal, Kosi Kalan and Unao. Inquiries were made from, and advice was given to, the Medical Officers of Health of various municipalities on the examination of water-supplies carried out by them, copies of the results of which are now being examined at the Institute on their receipt.

Special Investigations.

1. (*a*) *Bacteriological.*—Several batches of lymph, including a sample of dried lymph manufactured at the Government Bovine Lymph Dèpôt were examined with a view to determine the total count of bacteria and the presence of anaerobes.

2. A large number of stools from cases suspected to be suffering from cholera from various districts and municipalities in the United Provinces were examined to find out if the causative organism in an epidemic, which continued long after the monsoon, was identical with true cholera vibrio or some other micro-organism.

3. An inspection of the Lucknow water-works was undertaken and Bacteriological tests were carried out to ascertain the reasons for the unsatisfactory quality of water during the summer and the latter part of the year.

1. (*b*) *Chemical.*—Besides the routine chemical examination of samples of water from public water-supplies already referred to, the following miscellaneous work was done at the Institute.

2. Examination of samples of wheat and rice flours for colouring matter.

3. Chemical examination of Australian and Indian wheat to determine their comparative nutritive contents.

4. Chemical examination of samples of water from Bridhkal well in Benares to determine if the water contained any minerals of therapeutic value. This well is reported to possess curative properties especially in cases of skin diseases.

Production and exhibition of Cinema films on health subjects.

(*a*) *Preparation of new films.*—1. The cinema film on Malaria "Our Greatest Enemy" was completed during the year under report in collaboration with the Chief Publicity Officer, Railway Board, Government of India.

2. The production of maternity film and the Allahabad Kumbh fair film is nearing completion. All the scenes have been photographed and the printing and the editing of the film are now being undertaken.

3. Preliminary arrangements for filming the Child Welfare film have been made,

(*b*) *Preparation of extra copies of films for sale.*—1. An extra copy of the scientific portion of the Malaria film was supplied to the Chief Publicity Officer, Indian State Railways, according to the reciprocal arrangements made between the Institute and the Railway Publicity branch.

2. A copy of "Why die of Cholera" with English and Hindi captions was supplied to the Sanitary Commissioner, Gwalior State, for Rs. 1,000 for which an order was booked in the year 1928.

3. Orders for the following copies of cinema films (i) "A Lucknow Home," (ii) "Why die of Cholera," (iii) "The Tragedy of Small-pox" and (iv) "Our Greatest Enemy" have been received from the Gwalior State and from the Honorary Secretary, Lady Chelmsford League, and will be executed in due course.

(*c*) *Cinema shows.*—The films produced at the Institute were shown in these provinces in Lucknow, Allahabad (city and Magh Mela), All-India Medical Missionary Conference at Allahabad, Benares, Kheri, Muzaffarnagar, Aligarh, Shahjahanpur, Dehra Dun, Naini Tal, Bhowali, Ranikhet and Almora. Besides these places they were also shown in Calcutta, Nadia in Bengal, Delhi and Simla.

The number of shows given was 121 and the total attendance approximately estimated was 92,500.

The film "Our Greatest Enemy" on malaria was shown to the Malaria Commission and it was greatly appreciated by them.

The demand for Public Health films has increased so much that it is felt that without further expansion of this branch it cannot be adequately met.

Many requests for the booking of films for shows in different places in the United Provinces and other parts of India had to be refused, as the films were being shown in other towns, or had already been booked for other places at the time that they were asked for.

(*a*) *Miscellaneous Scientific and Literary activities of the staff.*—The Chemistry and Bacteriology of Public Health was published during this year under the joint authorship of Lieut.-Colonel C. L Dunn and Rai Bahadur Dr. D. D. Pandya.

(*b*) A study of comparative mortality statistics by Dr. B. S. Yajnik was completed and copies printed and circulated with the approval of Government.

(*c*) A tentative syllabus for teaching Hygiene in rural schools was drawn up by the members of the staff for the educational officer on special duty attached to the office of the Director of Public Instruction, United Provinces, and a book based upon the syllabus was corrected and revised at his request.

(*d*) An alternative method of vaccination in place of the one in use at present was suggested and it is being tried in two districts and interesting results are expected.

(*e*) A paper on " Bacterial Variation in Agglutinability " was prepared and submitted to the Medical section of the Indian Science Congress by Dr. J. T. Cornelius.

(*f*) Diet scales for cultivators and others were prepared by Dr. B. S. Yajnik.

Malaria branch.

4. The charge of this branch was held by Major D. Clyde, I.M.S., from January 1 to November 18, 1929, when he proceeded on one year's combined leave ex-India and Dr. A. C. Banerjea, Senior Assistant Malaria Officer, assumed charge of the branch which charge he held till the close of the year.

Assistants.—Dr. Banerjea worked as Senior Assistant from January 1 to November 18, 1929, when he was appointed officiating Assistant Director of Public Health (Malariology). Dr. B. M. Roy acted as Junior Assistant Malaria Officer from January 1 to November 18, 1929, except for the period from February 7 to April 19, 1929, during which he acted as medical officer of health in the Lucknow municipality. From November 19 to the end of the year he worked as Senior Assistant Malaria Officer. Dr. P. N. Chatterji acted as temporary third assistant throughout the year except for the periods from February 7 to April 19, and from November 19 to December 31, 1929 when he acted as the junior assistant.

A summary of the activities of the branch is appended.

1. *Anti-malarial works in the Sarda Canal zone.*—The anti-malarial works on the Sarda Canal were continued throughout the year under the supervision of this branch. The area was visited periodically by the officers of this branch and the canal authorities were advised in matters of general sanitation and anti-malarial measures. Regular fumigation of houses was carried out and the mass treatment of labourers by cinchona and quinine was continued throughout the year.

With the closure of construction works very few labourers were left in Banbassa at the end of the year and therefore the two public health travelling dispensaries which were working at the headworks camp and Jagbura construction camp were withdrawn and the main hospital of the headworks area was put in charge of a sub-assistant surgeon, the services of an assistant surgeon being no longer required.

In May, 1929 an epidemic of cholera due to imported cases from the Nepal Tarai occurred in the camp at headworks. An officer of the malaria branch was deputed to Banbassa and he soon brought the epidemic under control and effectively checked its further spread into the neighbouring camps.

The following permanent measures were recommended for the guidance of the canal authorities as it was necessary to confine anti-malarial works

only to those areas where the permanent establishment of the Irrigation department was to be located :—

(1) To centralise all the population into one area as far as possible.

(2) To provide mosquito-proof quarters for the resident population at Banbassa.

(3) To keep an area of half a mile radius all round the camp clear of grass, weeds and jungle growth.

(4) To fumigate with sulphur and tobacco mixture all permanent buildings once a week during the autumn and spring malarial seasons.

(5) To maintain an adequate number of sanitary gangs to attend to the "*pakka*" drains and for "Parisgreening" other stagnant collections of water within half a mile radius of the camp.

(6) To maintain a sufficient number of sweepers and incinerators to satisfactorily dispose off all human excreta.

(7) To maintain a sufficient provision of Parisgreen, and dry dust as a diluent for the "Paris green mixture."

(8) To train one of the sub-overseers to supervise the general sanitary and anti-malarial works. This training could be arranged by the malaria branch.

(9) To transfer all matters pertaining to the control of general sanitation and epidemic diseases such as small-pox, cholera, plague and relapsing fever, etc., to the Chief Medical Officer, Tarai and Bhabar, as the headworks area is situated within his jurisdiction.

(10) To refer to the malaria branch for advice in all matters relating to malaria and anti-malarial works. That in future the Assistant Director of Public Health (Malariology) will function as an advisory body to deal with special problems as they arise as in the case of the rest of the province.

A detailed report on the anti-malarial measures in connexion with the Sarda Canal construction works, embodying the whole period of investigation from 1919—1929 was submitted to Government in the month of November. The preparation of this detailed report took up a considerable portion of the time of the malaria staff. The report deals at length with both the administrative and scientific aspects of malaria prevention in big construction camps scattered over a hyper-endemic zone, the notorious Tarai of the United Provinces. Apart from its scientific value, the report should serve as a working manual for malaria workers in the field.

2. *Post-graduate training in anti-malarial methods.*—During the year five classes were held—two for D. P. H. and two for L. P. H. candidates and one for giving a three months' refresher course to nine officers of class I of the Provincial Public Health Service. These courses included field training and laboratory work.

3. *Malaria surveys.*—The following malaria surveys were carried out during the year :—

(1) *Malaria survey of Banbassa.*—The usual malaria survey of the place, which is done at the beginning of each working season, was carried out.

In addition to paying periodical visits to Banbassa the following places in the Sarda Canal zone were also visited :—

(*a*) Shahgarh.
(*b*) Bifurcation.
(*c*) Izatnagar.
(*d*) Shahjahanpur.
(*e*) Unao.
(*f*) Utraithia.
(*g*) Kakori.
(*h*) Rae Bareli.
(*i*) Khajouli.
(*j*) Jehat.
(*k*) Mau.

(2) *Moghal Serai notified area (district Benares).*—A complete report of the survey of this place is under preparation.

(3) *Gangapur town area (district Benares).*—A report of the survey of this place is also under preparation.

(4) *Other places visited during the year.*—The following places were visited for studying local conditions with a view to advise local authorities on malaria prevention :—

(1) Saharanpur	District Saharanpur.
(2) Ismailpur	District Saharanpur.
(3) Baheri	„ Bareilly.
(4) Kichha..	„ Naini Tal.
(5) Haldwani	„ Naini Tal.
(6) Izatnagar	„ Bareilly.
(7) Malawan	„ Hardoi.
(8) Nawabganj Saidi	„ Hardoi.
(9) Pihani	„ Hardoi.
(10) Intiathoke	„ Gonda.
(11) Thanupur	„ Gonda.
(12) Wazirganj	„ Gonda.
(13) Bilsur	„ Gonda.
(14) Pachperwa	„ Gonda.
(15) Azamgarh district jail	„ Azamgarh.
(16) Nichlaul	„ Gorakhpur.
(17) Siswa Bazar	„ Gorakhpur.
(18) Khadda..	„ Gorakhpur.
(19) Chitauna Ghat	„ Gorakhpur.
(20) Nautanwa	„ Gorakhpur.
(21) Itaunja..	„ Lucknow.
(22) Ataria	„ Lucknow.
(23) Usurwa	„ Lucknow.
(24) Arjanpur	„ Lucknow.

4. *Visit of the Malaria Commission of the League of Nations.*—Six members of the Malaria Commission of the League of Nations, on the invitation of the Government of India, undertook an extensive tour all over India to study local conditions with regard to malaria prevention. These provinces were included in the itinerary of these distinguished malariologists. They were shown various types of anti-malarial works functioning in these provinces over the Tarai, Sarda Canal zones, and in some of the urban and rural areas such as Saharanpur, Moghal Serai, Pilibhit, Nabinagar, Laharpur, etc. The delegation was very much impressed with the rural cinchonization scheme.

5. *Investigation and control of malaria epidemics.*—

(1) *Districts.*—The districts of Lucknow, Shahjahanpur, Kheri, Bareilly, Moradabad, Gorakhpur, Azamgarh and Bahraich reported epidemic malaria during the months of September, October and November, 1929. The epidemic was confined to small areas in each district, except in the districts of Lucknow, Moradabad and Gorakhpur where the epidemic was prevalent in one whole tahsil.

As far as could be ascertained, the epidemic in the districts of Lucknow, Shahjahanpur, Kheri and Bareilly was associated with the opening of the Sarda irrigation channels. It was remarked that in the district of Shahjahanpur the villages bordering on the new irrigation system suffered the

most. A brief note on the effects of uncontrolled canal irrigation on the salubrity of urban areas and the necessity of consulting the Public Health department whenever canal irrigation is sought to be introduced into urban areas has been submitted to Government. In the districts of Gorakhpur and Azamgarh the nature and extent of rainfall accounted for the higher incidence of the disease, while in Moradabad and Bahraich an additional contributory cause was partial failure of crops and consequent lowered resistance. The table given below shows the number of cases treated and the amount of cinchona or quinine distributed to relieve the sufferers :—

Table showing the number of cases treated in the various districts and the amount of cinchona used.

Name of district.	Name of mortuary circle.	Number of cases treated.	Amount of cinchona or quinine	Period of epidemic.	Agency employed for distributing quinine or cinchona.
			lbs. oz.		
Bareilly ..	1. Deorania .. 2. Baheri .. 3. Nawabganj ..	7,647	26 15	September and October.	Dispensaries, tahsildars, and special health officers.
Bahraich ..	1. Fakharpur ..	4,000	24 0	Ditto..	District health staff, mukhias, district board members, ziladars, and kanungos.
Lucknow ..	1. Malihabad .. 2. Mohanlalganj .. 3. Banthara .. 4. Goshainganj .. 5. Mandiaon .. 6. Itaunja ..	11,667	47 8	Ditto..	District Health staff, district board members, teachers, co-operative societies, village aid dispensaries, vaids, and hakims.
Shahjahanpur.	1. Banda .. 2. Sidhauli ..	2,035	18 2	Ditto..	Irrigation subordinates and dispensaries.
Gorakhpur	1. Nichlaul .. 2. Naikote .. 3. Kothibhar ..	20,500	146 0	Ditto..	Teachers, district health staff, revenue staff, dispensaries, and two paid distributors.
Moradabad	1. Thakurdwara (tahsil).	4,572	49 0	Ditto..	Teachers, district health staff, vaids, and hakims, district health staff, and members, revenue staff and police.
Azamgarh	1. Mau (notified area).	2,043	12 0	Ditto..	Dispensaries.
Kheri ..	1. Palia .. 2. Naghasan .. 3. Dhaurahra .. 4. Isanagar .. 5. Phul Behar .. 6. Bhira .. 7. Gola ..	1,550	14 0	Ditto..	District health staff, revenue staff, zamindars, and teachers.
	Total ..	54,014	337 0		

The various agencies employed for distributing the drug in rural areas were mostly honorary, e.g., teachers, co-operative societies, district board members and zamindars. Other agencies that were employed were the district health staff, dispensaries and district board hakims, vaids, police, revenue and irrigation staff.

(2) *City of Lucknow.*—The city of Lucknow was visited by an epidemic of malaria during the summer months. The fever rise started about the second week of March, reached the peak in May, declined in June, rose again in July and August and finally declined in the third week of September. The mortality following the high fever incidence was enormous and unprecedented, being between four to six times the average for the corresponding periods of the previous four years. The town was surveyed in 1913, and in 1923 and the latter survey showed that the spleen rate had fallen from 3·5 per cent. in 1913 to 1·4 per cent. in 1923. Subsequent surveys during the years 1924—1928 did not reveal a spleen rate of over 2 per cent for even the worst areas nor any other feature threatening an epidemic could be detected until early in April, 1929.

The present outbreak was coeval with the usual spring rise of malaria in March and April. The high death-rate following this rise in a season when epidemics of malaria are unknown and in the absence of any marked increase in the carrier anophelines until May, led us to suspect that the basis of the high death-rate must be a fever of very toxic clinical manifestations. There is some evidence to suggest that the early rise in the spring was complicated by a malaria-like undifferentiated fever associated with enlargement of liver and spleen and the presence of jaundice.

In order, therefore, to determine the true nature and extent of the disease causing this high death-rate a very systematic and careful investigation was undertaken and the following in brief are the findings :—

(1) The fever morbidity rate per 1,000 of population rose to 4·6 times the average for the corresponding period of previous four years in April and to 6·1 times in May and finally declined in September.

(2) The fever mortality rate rose to 3·2 times of the average of previous four years for the corresponding period in April and went up to 5·6 times in May and gradually declined in October and November.

(3) 2,430 children were examined for splenic enlargement in the various mohallas; 409 or 16·8 per cent. showed enlarged spleens. The highest spleen rate recorded during the epidemic was 49·0 per cent. in the Yahiaganj ward and the lowest 5 per cent. was that of Ganeshganj ward.

(4) 1,519 blood slides from fever cases were examined and 941 or 61·9 per cent. showed malaria parasites. Of these, 71 per cent. were Benign tertian; 24 per cent. Malignant tertian; 0·8 per cent. Quartan, and 4·2 per cent. were mixed infections of Benign and Malignant tertian parasites.

(5) The endemic index was 16 per cent.

(6) The following species of anopheline mosquitoes were found responsible for the outbreak :—

A. culicifacies.

A. stephensi.

Of the two A. stephensi was found infected in nature and showed an infection rate of 9•3 per cent.

(7) The principal breeding grounds of the city have been indicated in the various reports. Of these the edges of the Gomti river, the *kachcha nalas*, and the wells were found to be the most active centres. In April and May due to a breakdown in the Gomti-weir flushing mechanism, the outfalls of the various *nalas* into the river and the river edges were found breeding anophelines, especially A. culicifacies. In the month of August, the wells became an active source of A. stephensi and it was found that of the eight wards, Yahiaganj ward which had the largest number of wells (1,392 recorded wells) suffered the most and showed the highest spleen rate and highest mortality.

Preventive measures.—The following control measures were adopted :—

(1) Quininisation of school children.

(2) Mass quininisation through hospitals and municipal compounders, in areas far off from hospitals.

(3) Distribution of quinine by the D. P. H. and L. P. H. students in the various mohallas of the city.

(4) Oiling of all breeding grounds.

(5) Hygiene propaganda—with special reference to the origin and prevention of malaria.

A complete report on the above investigation with permanent recommendations has already been submitted to the Government.

The Director of Public Health and Assistant Director of Public Health (Malariology), United Provinces, attended a special meeting of the municipal board and addressed the members on the malaria problem of Lucknow.

6. *Investigation into the treatment of malaria cases with indigenous drugs.*

I. Kwera bark.—This bark is derived from a tree growing in the sub-Himalayan region and has been found growing in abundance in the "Tarai" of the United Provinces. The botanical name of the plant is Holarrhena anti-dysenterica. The use of the bark for fever in the Tarai is mentioned in the Industrial Survey report of Naini Tal district. It is stated there that "Kwera bark is used as quinine and is considered more efficacious than ordinary quinine."

The present work was undertaken with a view to find out how far the popular use of the bark for malaria was useful in controlling the disease, as the tree is so abundant in the very region where malarial fever is most rife.

The powdered bark was tried in 14 cases of which only two apparently responded to the treatment. The amount of the bark powder administered before cessation of the fever in these cases, was 360 and 160 grains,

respectively. In the latter case with the relief from fever there was a disappearance of parasites (B. T. infection) from the peripheral blood while the former was only clinically diagnosed as malaria.

The remaining 12 cases uniformly record the failure of the drug to control either the fever or the parasites in the blood even where the total amount given was as much as 900 grains.

As the dosage in these instances was considered insufficient and as the powder form was too bulky to increase the dosage an infusion of Kwera bark was prepared, 3 oz. of the infusion being equal to 100 grams of Kwera bark powder. Two more cases were tried on this infusion 1 oz. thrice daily, on the basis of 100 grams of bark powder per day, as laid down by Lieut.-Colonel R. N. Chopra, I.M.S., who very kindly indicated the maximum safe dose.

The results of treatment with the infusion were disappointing as both the fever paroxysms and blood infestation continued even after the administration of 15 and 21 ounces of infusion respectively.

II. Kurchi Tabloid (Burroughs Wellcome & Co.).—This contains the active principle of Holarrhena anti-dysenterica and it was tried to see if the same active principle that is useful for dysentery was in any way beneficial in malaria.

Six cases were put on these with 10 grains of Kurchi tabloid three times a day. In no case was there any effect either on the fever or on the parasites in the blood.

III. Allumen Exisscatus.—Purified alum was heated to drive off the water of crystallisation and the powder grounded and kept in dry well stoppered bottles. The dosage used was from 15 grains to 21 grains per day. Four cases were tried with this. The drug appears to have a considerable effect in aborting or reducing the height of the paroxysms. In the dosage tried, the drug, however, appears to have little influence on the malarial parasites in the blood. Relapses were quite common.

IV. Some 26 cases attending the chief Ayurvedic and Unani dispensaries in Lucknow during the last summer were examined and their histories followed to see how far the indigenous methods of treatment as used in these dispensaries controlled malarial fever.

Only those cases that were definitely clinically malaria were taken up, their blood tested and the number of days' treatment already undergone by the patient noted on day of blood testing.

The results were varying but these tend to show that apparent clinical cures were more frequent than parasitic and that this form of treatment is possibly more suited to chronic cases of malarial cachexia than to acute cases of recent infestation.

7. *Experimental anti-malarial schemes.*—The experimental anti-malarial works which were started in a few rural areas last year were continued this year with varying results. They are—

(*a*) *Introducing larvae-eating fish into breeding places.*—

In this scheme the task of transporting suitable types of fish over long distances and depositing them year after year in ponds, many of which dry up during the summer, was found to be biologically and financially

difficult. Even when deposited successfully in permanent tanks they did not thrive in spite of the absence of predaceous fish in these, pointing to the presence of some factor operating against these small fish, such as non-acclimatization, absence of suitable food, disparity in the proper numerical ratio of males to females, etc. Apart from this many tanks harbour bigger fish which prey on the smaller larvae-eating fish. The elimination of these predaceous fish prior to the introduction of larvae-eating ones is essential, but is often resented by owners of tanks on economic grounds. Even where all the harmful fish have been successfully removed their continued absence from such tanks in later years is not ensured. Flooding during the rains is common and in this way the dangerous varieties of fish get access to such tanks.

The only relief that could be procured for these small fish was to prevent people from fishing with nets of mesh less than one inch. Towards the end of the year 1928, the Government sanctioned the framing and adoption of byelaws tentatively by a few district boards. These byelaws were framed and adopted by three district boards only, so far, but have not yet been actively enforced. Some byelaws are in force in the Tarai and Bhabar Government Estates.

(*b*) *Cinchona cultivation.*—This scheme has now advanced a stage further and a hundred seedlings are growing in the Sylviculturist's nursery at Haldwani. Further developments will be reported as they occur.

(*c*) *Village tank treatment.*—This scheme was carried out in groups of villages in the districts of Allahabad, Hardoi, Gonda and Kheri. There has been a slight improvement in the malaria situation. But it is too early yet to say that this scheme was the sole cause of improvement.

The scheme cannot be recommended as a popular anti-malarial measure in rural areas because of the opposition of villagers and other difficulties mentioned in the report of 1928.

(*d*) *Leguminous fodder crops.*—This year again 30 lbs. of "berseem" seeds that had been sown in Kichha (Tarai) did not come up. More extensive sowings on canal banks which was arranged with the Chief Engineer, Irrigation branch, were held up for want of "berseem" seeds which were not available from Nagpur, Cawnpore or Peshawar.

It is proposed to extend clover cultivation in some of the villages as soon as seeds are available.

(*e*) *Cactus scheme.*—This was carried out in some six villages in three districts of the province. The results were inconclusive, as in most cases the ponds dried up owing to deficient monsoons.

The villagers do not appreciate this scheme, as it entails a certain amount of labour and difficulty in watering their cattle. It is, therefore, of a very limited application in rural areas in general.

(*f*) *Pesterine* (*M.D.B.*).—We procured a sample of this larvicide which was put in the market this year by the Burma Shell Oil Company, Ltd.

Field experiments with this larvicide were carried out in the autumn of this year for a period of a little over four months, both in Lucknow city and Tarai rural areas.

The preparation is slightly dearer than the ordinary crude oil—kerosine oil—castor oil mixture that is usually used for this purpose. It is slightly poisonous to the small fish and is not as efficient in running canal 'guls' and paddy fields as in borrow pits, ponds, etc., where it forms a good homogenous film and destroys mosquito larvae with a certainty within a very reasonable time.

(*g*) *Paris green.*—Sowing of Paris green diluted with dust was carried out in the districts of Muttra, Bara Banki and Tarai and Bhabar. It is a good and efficient larvicide and gives satisfactory results as regards malaria incidence. It is, however, very doubtful whether this poisonous drug can ever be freely given out to the villagers for broadcasting except under strict official control.

(*h*) *Cinchonisation scheme.*—

(i) *School cinchonisation in Sitapur district.*—This scheme which was started in the year 1928 and originally included 116 schools in Sitapur district was extended during the year under report to 34 more schools in the same district. The scheme had proved very popular and the local health staff were frequently requested to extend it to numerous other areas.

The results as judged from a scientific point of view were also encouraging although an accurate assay of the results is not possible at the present stage. The spleen rate figures have shown a considerable decline in all the schools, while those in what is known as the "Ganjar" area, where the spleen rate was originally very high, have shown a decline from as much as 60 per cent. to 30 per cent.

Generally speaking, areas showing a high endemicity respond more quickly and to a larger extent than areas not originally severely affected.

The school attendance figures in all schools under the scheme show an increase of 20 per cent. during the two malarial seasons as compared to the average attendance in the corresponding periods before the scheme was in operation. This also affords an indirect indication of the malaria sickness incidence amongst the school-going children. The effect on fever deaths as reported in the village chaukidar's registers has not yet come to be felt, as the period during which the scheme has been in force is too short to bring about any gross change in the vital statistics of the general population particularly in view of the fact that the populations involved are small ones.

(ii) *Village cinchonisation.*—This scheme was first started towards the end of the year 1927 in 22 groups of villages, in the districts of Fyzabad, Bulandshahr, Moradabad, Gorakhpur, and Allahabad During the year under report the scheme was further extended in the districts of Gorakhpur and Fyzabad and at the close of the year was in force in 36 groups of villages.

The scheme consists in the free distribution of cinchona tablets, to all fever cases through a suitable agency, such as "mukhias", teachers, zamindars, etc. The local agent in each place has instructions to administer to all adult cases of "Jara Bokhar" or "Tap" 30 grains of cinchona per day for three days at least, or longer if the fever does not subside and proportionately smaller dose to children.

Any case that relapsed was put through a second and, if necessary, a third or a fourth course of 90 grains. The relapse rate after the first course of 90 grains was 11·2 per cent. after the second course 3·5 per cent. and after the third course ·5 per cent. The corresponding relapse figures for the year 1928 are 28·6 per cent. (after first course), 5·4 per cent. (after second course) and ·1 per cent. (after third course).

The total number of cases treated during 1929 under the scheme was 7,552, while the amount of cinchona used was 81 lbs. 12·5 oz.

Besides the physical relief from suffering there is no doubt that the economic gain to the villager from the timely treatment is very great. The duration of the illness varying from a fortnight to several weeks in untreated cases, is cut down to two to six days. The economic gain from the wages earned during these days which would otherwise have been spent in a sick bed is obvious. This gain is further enhanced by the fact that the wages of the agricultural labourers go up in the spring and autumn months—the malarial seasons—owing to active sowing, irrigating, and harvesting operations when labour is very much in demand. The scheme is without doubt very popular.

Comparing the spleen rates and vital statistics for 1929 with the corresponding average figures for the three—year period 1924—192 (before the scheme commenced) in the villages where the scheme has been in force for the last two years, a noticeable improvement as judged by these figures is apparent. The following table brings out this fact :—

—	Three years' average before the scheme (1924—1926).	1929.	Remarks.
1. Spleen rate	*12·7	5·9	*This figure is for 1927 only when the scheme was not in operation.
2. Total death-rate	36·3	23·0	
3. Fever death-rate	27·4	16·0	
4. Infantile mortality rate ..	257·7	216·6	
5. Birth-rate	34·5	37·0	

A full report on the working of this experimental scheme has been submitted to Government.

Anti-malarial measures in the Tarai and Bhabar Government estates.—This paragraph deals with the anti-malarial works carried out by the District Medical Officer of Health, Naini Tal, who is also the Chief Medical Officer of Health of the Tarai and Bhabar Government estates.

The Estates spent Rs. 17, 886 during the year 1928-29 and Rs. 5,469 till the end of December, 1929 on anti-malarial works in Bazpur and Gadarpur parganas. They consisted of filling in tanks, re-aligning of canals, draining of swamps, prohibition of fishing with nets having a mesh smaller than 1″ or with baskets or chadar within half mile from inhabited areas and excavations and cutting down of rank vegetation inside the villages, distribution of cinchona and quinine and of posters containing instructions on malaria among the tenants at the cost of the Estates, demonstration by magic lanterns and opening of village aid dispensaries.

A detailed report on malarial survey of the pargana of Rudarpur carried out by the Chief Medical Officer of Health of the Tarai and Bhabar Government estates was submitted to Government. The Chief Medical Officer of Health also submitted a preliminary note on the measures taken against malaria endemic in the Tarai and Bhabar Government estates. A copy of the note was supplied to the members of the Malaria Commission of the League of Nations.

The adoption of various schemes with a view to eradicate malaria has been recommended to the Estate authorities who are arranging to provide necessary funds to carry out the same.

Sale and distribution of quinine.—In 1929 quinine worth Rs. 5,328 was issued by the Aligarh jail factory for sale through the agency of post offices, court of wards, patwaris, tahvildars and stamp vendors. Of this quinine worth Rs. 5,148 was issued to post offices alone.

Two hundred and fifty lbs. were issued by the Epidemiology branch for the use of travelling dispensaries, 6 lbs. to the municipal medical officer of health, Cawnpore, and about 7 lbs. to the district medical officers of health, Gorakhpur, Ghazipur and Bara Banki, Civil Surgeon, Jalaun, Municipal Board, Fyzabad, and the Manager, Government of India Press, Aligarh.

One hundred and ten lbs. were supplied to the Assistant Director of Public Health (Malariology) for free distribution and about 208 lbs. to the district medical officers of health of Kheri, Bahraich, Lucknow, Gorakhpur and Azamgarh and the civil surgeons of Cawnpore, Bareilly and Shahjahanpur to replenish their reserve stock. Thirty-seven lbs. of cinchona febrifuge were supplied to the district medical officers of health, Allahabad and Gorakhpur.

About 9 lbs. of quinine and 16 lbs. of cinchona febrifuge were distributed by the Jail department to the prisoners and staff for prophylactic purposes.

Epidemiology branch.

5. The Assistant Director of Public Health of the II Range held immediate charge of this branch. During the year under report there were 38,138 deaths from plague in these provinces. Of this total 37,678 were reported from British districts and 460 from Indian States.

The following table gives the mortality from plague during the preceding 25 epidemic and calendar years:—

Epidemic years (from July 1 to June 30).

Years.	Deaths.
1903-04	139,524
1904-05	434,217
1905-06	60,767
1906-07	341,725
1907-08	26,646
1908-09	14,252
1909-10	166,360
1910-11	344,776
1911-12	120,271
1912-13	98,628
1913-14	116,561
1914-15	58,329
1915-16	45,528
1916-17	105,080
1917-18	206,190
1918-19	17,633
1919-20	24,002
1920-21	25,901
1921-22	18,268

Calendar years.

Years.	Deaths.
1923	74,187
1924	56,210
1925	49,091
1926	57,297
1927	15,570
1928	80,943
1929	37,678

A reference to the above table indicates that the mortality for the year under review was the lowest on record since 1923, excepting 1927. No special reason can, however, be assigned for the diminished prevalence of the disease.

The monthly mortality from plague during the period under report as compared with that of the preceding year was as follows :—

	1928.	1929.
January	5,413	5,679
February	12,895	10,220
March	26,064	13,018
April	24,315	6,519
May	7,368	1,254
June	668	103
July	234	31
August	306	17
September	97	34
October	137	44
November	760	248
December	2,686	521

As usual, January, February, March, and April showed high mortality—the highest figure being reached in March, when there were 13,018 deaths. In April the disease declined owing to the onset of the hot season and 6,519 deaths were registered. The disease was at its lowest ebb in August when there were only 17 deaths. In September and October a recrudescence of the disease was experienced and there were 34 and 44 deaths, respectively. In the succeeding months the mortality steadily increased and in December there were 521 deaths.

The south-eastern districts, as usual, suffered most but Muzaffarnagar, Saharanpur and Fyzabad were also badly infected. The district of Azamgarh recorded the highest mortality, viz., 8,056. Other heavily infected districts in order of severity of the disease were Ghazipur, Basti, Ballia, Muzaffarnagar, Saharanpur, Gorakhpur and Fyzabad with 4,385, 3,635, 3,209, 3,067, 2,331, 2,704 and 1,352 deaths, respectively.

A graphical chart showing plague mortality for a series of years is appended.

Plague by divisions.—Kumaun division.—This division was practically free from plague, only 22 deaths being recorded. Last year the death roll was 701.

Meerut division.—The divisional mortality fell from 14,418 to 5,686; Saharanpur and Muzaffarnagar districts were most severely infected with 2,331 and 3,067 deaths against 5,971 and 5,811, respectively, in last year. Dehra Dun reported 27 deaths against 64 of last year. The mortality in Meerut fell from 2,454 to 254.

Agra division.—This division returned only 660 deaths, all of which were recorded in the Etah district; the other districts remained entirely free.

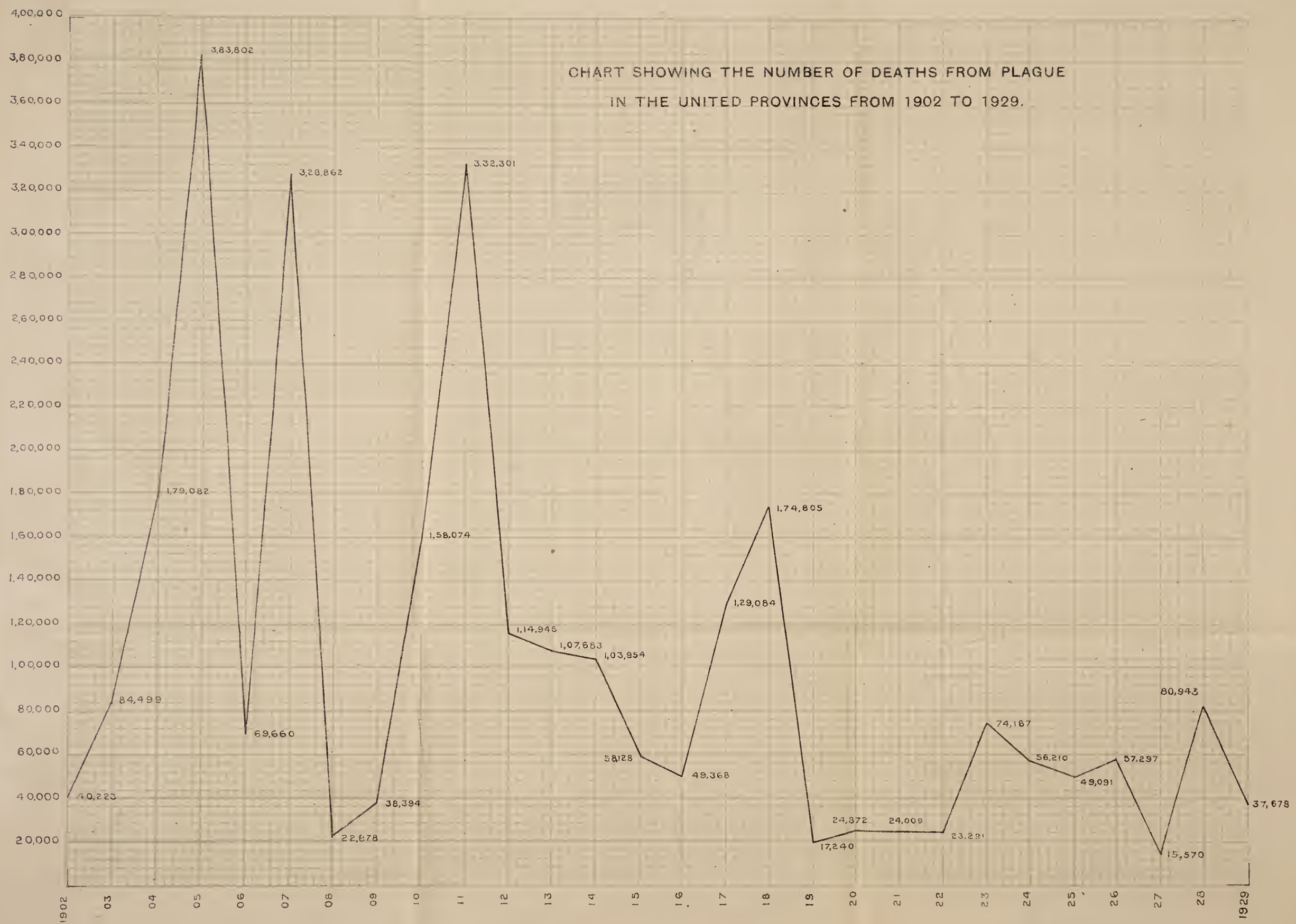


CHART SHOWING THE NUMBER OF DEATHS FROM PLAGUE
IN THE UNITED PROVINCES FROM 1902 TO 1929.
4,00,000
3,80,000
3,60,000
3,40,000
3,20,000
3,00,000
2,80,000
2,60,000
2,40,000
2,20,000
2,00,000
1,80,000
1,60,000
1,40,000
1,20,000
1,00,000
80,000
60,000
40,000
20,000
3,83,802
3,28,862
3,32,301
1,79,082
84,499
40,223
69,660
22,878
38,394
1,58,074
1,14,945
1,07,683
1,03,954
58,128
49,368
1,29,084
1,74,805
17,240
24,372
24,009
23,291
74,187
56,210
49,091
57,297
15,570
80,943
37,678
1902
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1929

Rohilkhand division.—The epidemic was very mild in this division. Last year this was one of the heavily affected divisions and reported 24,950 deaths. This year only 2,464 deaths were reported from the whole of the division (including 132 deaths from the Rampur State). Comparative figures for the districts of this division are :—

Bijnor 795, Moradabad 617, Budaun 328, Bareilly 269, Shahjahanpur 209, and Pilibhit 114 deaths against 3,829; 6,649; 5,914; 4,991; 2,181, and 1,386, respectively, of last year.

Allahabad division.—The divisional mortality was 644 against 1,916 of last year. Except in the Farrukhabad and Allahabad districts which reported 178 and 407 deaths, respectively, mortality throughout the division was very low.

Jhansi division.—This division remains entirely free from plague. The comparative immunity of this division from plague was well demonstrated in the previous year when with a severe epidemic in the province it reported only 2 deaths.

Benares division.—Mortality was very much the same as last year. The districts of Ghazipur (4,385 deaths), Ballia (3,209), Jaunpur (711) and Benares (589) were infected; whereas Mirzapur escaped; 328 deaths were reported from Benares State.

The divisional mortality was 8,894 against 7,681 last year.

Gorakhpur division.—This division was responsible for the heaviest plague mortality. Figures for the whole division were 14,395 against 17,823 of last year. Azamgarh and Basti reported 8,056 and 3,635 deaths against 8,991 and 3,847, respectively, of last year. Gorakhpur showed some improvement, the mortality being 2,704 against 4,985 of last year.

Lucknow division.—This division reported 2,158 deaths against 6,575 of last year. The comparative mortality of the districts of this division was—Lucknow 158, Unao 356, Rae Bareli 211, Sitapur 646, Hardoi 563 and Kheri 224 against 76; 875; 953; 1,389; 1,748; and 1,534, respectively, last year.

Fyzabad division.—Mortality in this division was much less than last year, 2,887 deaths having taken place against 6,746 last year. In Fyzabad, Bara Banki, Gonda and Partabgarh the reported deaths fell from 2,768; 2,963; 737; 252 to 1,352; 900; 142, and 228, respectively. There was some increase in plague mortality in Bahraich and Sultanpur, the figures being 237 and 28 against 11 and 15, respectively, in 1928. The figures for Sultanpur show a rise in the number of deaths from 15 to 28.

Inoculation.—During 1929 the total number of anti-plague inoculations performed by different agencies was 131,320 against 449,802 last year. The decrease was due to the fact that the epidemic was very mild this year. Experience has proved that inoculation is only accepted by the people in the actual existence of plague.

Out of 131,320 inoculations 45,617 were performed by the travelling dispensaries, 5,005 by special health officers, and 64,183 by the district health staff; the remaining 16,515 inoculations were done by other different agencies.

Evacuation.—Owing to the mild nature of the epidemic evacuation of the infected dwellings was not resorted to, to any great extent during the year under review, but this continues to be a very popular measure with the people at large and is likely to be widely resorted to in severe outbreaks of epidemics in future.

Rupees 10,536 were placed at the disposal of the district magistrates and chairmen, district and municipal boards, to assist the people in evacuating their houses and take other anti-plague measures.

Anti-rat campaign.—Rat destruction which was started in 1927 and 1928 in a few selected municipalities of the first range was continued throughout the year. In addition, anti-rat campaigns were also started in the following places during the year under report :—

1. Dehra Dun.
2. Moradabad district.
3. Bulandshahr district.
4. Baheri (Bareilly district).
5. Muzaffarnagar.

These places were selected for anti-rat campaign as plague had broken out there during the last winter (1929-30). With the exception of a few towns where this campaign was started in previous years the staff was reduced to one-third of the standard strength as no case of plague had occurred there. In Bareilly municipality, it was allowed to be carried out at full strength as plague was imported into Naini Tal from Bareilly district during the year 1928 and special precautions had to be taken to keep the city free from plague. In this municipality 418,127 rats were caught and destroyed. The campaign was carried out through the agency of a gang of coolies in charge of a jamadar acting directly under the supervision of a sanitary inspector and medical officer of health (where there is one). Rat destruction is chiefly carried out by means of rat trapping.

Anti-rat campaign was quite popular in the towns in which it was started and there was no opposition to the campaign being carried out on the part of the orthodox public. During the last year of severe epidemic, some of these towns enjoyed comparative immunity. No definite conclusion of any value can be drawn from this year's experiment as the epidemic was a very mild one. The Assistant Director of Public Health, I range, inspected anti-rat campaign in the following cities and was satisfied with the work of rat destruction being done there :—

1. Bareilly.
2. Moradabad.
3. Sahaswan.
4. Muttra.
5. Agra.
6. Dehra Dun.
7. Muzaffanagar.
8. Saharanpur.

Anti-rat campaign was also carried on in the municipality of Lakhimpur and Nanpara notified area of the II range.

The following table shows the amount of work done in connexion with anti-rat campaign :—

Serial number.	Locality.	Amount spent by Government on anti-rat campaign.	Number of rats killed.
	I Range.	Rs.	
1	Saharanpur	250	9,837
2	Meerut	200	20,355
3	Ghaziabad	200	12,841
4	Hapur	200	13,856
5	Bulandshahr	200	5,180
6	Aligarh	300	156,619
7	Hathras	200	19,926
8	Muttra	300	78,895
9	Agra	400	33,672
10	Bareilly	1,350	418,127
11	Sahaswan	250	17,543
12	Moradabad	300	21,056
13	Sambhal	100	17,765
14	Shahjahanpur	400	5,898
15	Tilhar	100	1,596
16	Pilibhit	200	27,483
17	Aonla	200	9,883
18	Amroha	369	52,162
19	Dehra Dun	300	19,005
20	Moradabad district	300	7,313
21	Bulandshahr district	100	1,833
22	Baheri	400	397
23	Muzaffarnagar	124	..
	II Range.		
24	Lakhimpur	250	8,783
25	Nanpara .. .. —	226	1,000
	Total ..	7,219	961,025

Travelling dispensaries.—The number of travelling dispensaries increased from 41 to 43 during the year owing to the opening of two district board travelling dispensaries at Muzaffarnagar. The district board travelling dispensaries now number six and public health travelling dispensaries 36. There is one forest travelling dispensary at Kheri. Each district board contributes the usual amount of Rs. 1,000 annually towards the upkeep of its travelling dispensary and the rest of the cost is borne by Government. The district board, Muzaffarnagar, maintains an additional travelling dispensary entirely at its own cost and the Forest department pays wholly for the forest travelling dispensary at Kheri. In addition to these there are two Tarai and Bhabar Government estates travelling dispensaries, which are entirely maintained by the estates.

As the number of public health travelling dispensaries was not found adequate to cope with the outbreak of epidemics, 14 reserve travelling dispensaries, the equipment of which is kept ready at the headquarters of the districts were mobilized. These were placed in charge of the temporary medical officers recruited by the department. Necessary drugs for the

use of these travelling dispensaries were supplied by the provincial epidemic stores godown.

These itinerant dispensaries have proved a most effective agency for dealing with outbreaks of epidemic diseases. They are enjoying ever-increasing popularity among the village people and are of much benefit in bringing medical aid to the door of the rural population. They have to be moved very frequently from one district to another in accordance with the course of epidemics. They have come to be regarded as established institutions in these provinces and continue to be more and more appreciated by the public. The total number of patients treated during the year by these dispensaries was 201,458.

Educational work.—A good deal of educational work is done by the travelling dispensaries. A large amount of literature on various epidemic diseases was also distributed by the travelling dispensaries in towns and villages. They also give magic lantern demonstrations on public health subjects in towns and villages.

Hygiene Publicity Bureau.

6. The detailed report of the Hygiene Publicity Bureau for the year 1929 has been submitted to Government separately. It has been printed and circulated to members of the Legislative Council and other officers. The activities of the Bureau are therefore mentioned here very briefly :—

The charge of the Bureau was held by Dr. A. Sousa, from January 1 to March 18 and again from November 19 to end of the year. During the interval Dr. M. N. Mitra, Medical Officer of Health of the Allahabad municipality, officiated as Assistant Director of Public Health in charge of the Bureau. Dr. Abdul Hamid, D.P.H., held charge of the post of Senior Assistant from January 1 to August 31 when he proceeded on study leave ex-India. Dr. B. S. Yajnik, D.P.H., officiated as Senior Assistant from September 1. Dr. Raj Narain Tandon, L.P.H., held the post of Junior Assistant throughout the year.

The total contribution from local bodies to the Bureau during the year 1929-30 was Rs. 7,900 against Rs. 8,200 in 1928. The district board of Etah and the municipal board of Brindaban joined the Bureau this year while the municipal boards of Hapur and Benares and the district boards of Muzaffarnagar, Cawnpore, Fatehpnr, Mirzapur, Bara Banki and Kheri discontinued their membership. The United Provinces branch of the Indian Red Cross Society gave a grant of Rs. 10,000 against the usual grant of Rs. 12,000 which they used to give so far.

The officers of the Bureau imparted training in hygiene and first aid to officers and men of the police training school at Moradabad and to kanungos and patwaris in their respective schools in Hardoi and other places. The District Medical Officer of Health of Partabgarh conducted the training of the supervisors of co-operative societies in their schools at Partabgarh. Endeavour is being made to enlist the assistance of the scout organization for "village aid" work. The Bureau trained 24 school masters as sanitary scouts at Etah and district medical officers of health have been instructed to give similar training in their respective districts.

The Bureau issued instructions during the year for social service to be done by the schools, panchayats, and village aiders in selected

circles around their respective headquarters. As an example of the kind of work done under this scheme may be cited the work done in the Shankarganj school in the Partabgarh district. Here, in an area round the school, the master and boys render first aid, supervise general cleanliness of the village and register births and deaths. The boys helped in the disinfection of wells and distribution of notices containing precautions against cholera and did a certain amount of hygiene publicity themselves. During the plague epidemic the boys helped in catching 2,315 rats by means of rat-traps supplied to them. The village aid dispensary of the school treated 62 cases of purging and vomiting during the cholera epidemic, of which 47 recovered.

Public health cinema films were shown at different places in the province. In all 121 shows were given to an approximate gathering of 92,500 persons. A number of extension lectures, illustrated with magic lanterns, were also given to college students. Copies of "How to do a Malaria Survey" were also distributed to the district medical officers of health for their guidance. Booklets on common diseases with 36 illustrations and another on "School Hygiene for Parents and Teachers" were prepared by this Bureau for the Director of Public Instruction, United Provinces.

Considerable attention was devoted by the Bureau to the question of dietaries and the dissemination of correct knowledge regarding well-balanced diets. A "FOOD PRIMER" was prepared during the year, towards the cost of printing of which Mr. D. N. Bonarji, Bar.-at-Law, taluqdar of Gola Gokaran Nath of the Kheri district, contributed a sum of Rs. 500. The Bureau also conducted an investigation into the dietaries of the boarders of 12 hostels of the high schools and intermediate colleges. It was found that the diet in most of the schools and college hostels was not quite well-balanced, being deficient in vitamins, proteins and salts—the important requisites for growth and vitality. The addition of milk, *leafy* vegetables and fruits of the season would properly balance these diets, while sprouting gram, taken in the morning as refreshment, would considerably increase the vitamin content. The appointment of medical officers of health as school health officers provides a suitable opportunity for them to advise the students on question relating to diets.

Physical culture has received considerable attention in the Rae Bareli district due, mainly, to the keenness of the District Medical Officer of Health and the District Magistrate (Dr. Nehru). Here a committee has been appointed with the Deputy Commissioner as president and the district medical officer of health as honorary secretary. In the village primary schools rural games are played for at least half an hour daily. The middle schools which have taken up agriculture are exempted from this half-hourly exercise as the work in the fields gives the boys sufficient exercise.

In 1927 the Bureau had prepared a book containing details of the Public Health Organisation in the United Provinces for the use of the medical and health authorities of Far Eastern countries which were on a visit to India. The following is an extract from the report of the Interchange of Health Officers (League of Nations) on this book :—

> "An excellent souvenir book relating to the public health organisation of this province had been specially prepared by the Public

Health department of the United Provinces for the Health Interchange; a copy was presented to each member. The book deals very comprehensively with all branches of Public Health work in the United Provinces and very greatly supplements the articles on this province which appear in the publication "Health Organisation in British India". Of the articles in this book, perhaps the most interesting are: Hygiene propaganda, page 13, Cholera, page 136, Plague, page 146, Small-pox, page 163, Malaria, page 152, Leprosy, page 181 and Epidemic relief, page 199."

The following remarks in the above report in connexion with a Public Health Exhibition organised in January, 1928, mainly for those participating in the Interchange, are of interest :—

" That which perhaps created most attention amongst the participants was the visit to the Medical College at Lucknow on January 11. Here an excellently arranged Public Health Exhibition had been prepared relating to the vital statistics of the province, travelling dispensaries (a feature of the United Provinces), propaganda work, water-supplies, adulteration of food and drugs, malaria, plague, cholera, etc., etc.

The participants agreed that the work of the Publicity department of the United Provinces was much in advance of what they had anticipated possible in India, while no little surprise was occasioned when special locally prepared cinema films of the United Provinces relating to the Hardwar Kumbh mela and to the spread of small-pox, were displayed. Several of the visitors said that this demonstration reassured them of the necessity for a special Publicity department to ensure the advance of public health work."

The members of the Malaria Commission of the League of Nations who were on a visit to this province in October, 1929, visited Itaunja, a village in the Lucknow district, and following was the note they recorded in the school inspection book :—

" We have found the school children in the primary school and the students of the middle school in very good health, notwithstanding the unfavourable conditions of this year. We are convinced that the excellent care the officer in charge of the dispensary takes for the population under his supervision and the active interest in public health problems taken by the children and the students has contributed to bring about this favourable state of health and that the vivid picture of the havoc caused by malaria, which was shown us in the 'Malaria drama' so ably performed by school children and teachers, will induce the people to continue to fight the disease."

District Health Service.

7. This service was extended to the district of Garhwal in April, 1929, and the supervision of the sanitation of the pilgrim route was made the primary concern of the staff. This brings the total number of the districts supplied with a qualified district health staff to 28, leaving 20 as yet unsupplied. Requests are pending from several other districts for the extension of the service but on account of lack of funds further extension could not take place during the year 1929. The sphere of work of

the health staff continues to expand in many directions and many important additions to their duties are continually being made. I consider, however, that there has been a tendency perhaps to overload the very attenuated district staff with too many and multifarious duties, with the result that in many districts, particularly when epidemics are rife, it has been impossible to carry out the instructions issued by the department in any real sense, with the result that much of the work reported has been of a sketchy description. It is impossible for two medical officers to carry out a conglomeration of duties extending over a wide district and including such widely differing activities as control of epidemics, school inspection, rural sanitation, child welfare and the like. I allude further to this in sub-paragraph (VIII). In regard to the improvement of rural sanitation it is now generally recognised that no advance can be made without this personnel. They are beginning to create a sanitary conscience in the rural areas, both in the case of the landowners and the tenants, and several improved methods have been introduced into the ordinary domestic and village economy with considerable benefit to the villagers. As a result of the publicity and educative work done, enforcement of sanitary legislation is comparatively easier in the districts where the staff has been appointed than in others. In the matter of the control of epidemics also the results are gratifying. Sanitary supervision of the fairs has made considerable progress and the various authorities are agreed that the work of the staff in this direction has been most effective. The district and assistant medical officers of health also inspect the sanitation of factories where they exist and the working condition of the operatives.

Below are give extracts from the reviews of commissioners, district magistrates, and chairmen of the district boards on the annual reports of the district medical officers of health (as far as available) in which they have expressed their opinion on the value of the work being done by the staff.

District Magistrate, Gorakhpur.—" You (the district medical officer of health) are to be congratulated on the success achieved in dealing with the epidemic of cholera."

Commissioner, Gorakhpur division.—(For Basti district.) "The staff are to be congratulated on the year's work and specially of their successful fight against the outbreak of cholera."

Chairman, District Board, Basti.—The public health staff have again done a year's good work and fought creditably against the epidemic of cholera."

Commissioner, Fyzabad division.—(For Fyzabad district.) " Dr. and his assistant have done a useful year's work and are to be congratulated on their achievements generally but especially in connexion with epidemics and inoculations."

Commissioner, Fyzabad division.—(For Gonda district.) " The Public Health department have done a useful year's work and credit is due to it for its achievements in the control of epidemics and the extension of simple sanitary improvements in the rural areas."

Deputy Commissioner, Gonda.—" The district medical officer of health and his assistants have put in a useful year's work."

District Magistrate, Ghazipur.—" I have noticed in my cold weather tour that the sanitation of villages is improving, though slightly. There

are quite a number of villages in which manure is now being stored outside the *abadi* in suitable pits."

Chairman, District Board, Ghazipur.—"The district health staff was extremely busy throughout the whole year in trying to prevent the epidemics . . . The sympathetic treatment of the health staff is making the health scheme more and more popular every day and there is ever-increasing demand for help from every direction."

District Magistrate, Benares.—"The staff has undoubtedly done admirable work in combating the spread of epidemic diseases."

Commissioner, Fyzabad division.—(For Bahraich district.) "The present scheme is doing on the whole good educative work. The lines on which work is carried on are generally sound."

Deputy Commissioner, Bahraich.—"I believe the district health staff deserve credit for their work in combating the epidemics of plague and cholera which raged severely."

Chairman, District Board, Bahraich.—"I have personal knowledge that in many places it was due to the early steps taken by this department that cholera remained located and did not play havoc in the neighbourhood."

Deputy Commissioner, Sultanpur.—"I have no doubt that one of the chief reasons why more deaths (from cholera) did not occur was this systematic and vigorous campaign (by the public health staff assisted by the revenue staff). I am glad that the health staff have done useful work in cleaning up villages and popularising the objects of the health scheme."

Deputy Commissioner, Partabgarh.—"There has been considerable progress with the village aid scheme. I have myself inspected most of the centres and can testify to the efficiency with which the work of training the boys in the principles of sanitation has been done . . . In my opinion it can safely be said that but for the thoroughness with which anticholera measures were taken by the health staff the, mortality would have been considerably higher."

Chairman, District Board, Partabgarh.—"I have greatly appreciated the good work of the district health staff in connexion with epidemics, sanitation, and hygiene propaganda. The activities of the department in rural reconstruction were worthy of special praise. The general outlook of the masses is rapidly changing and the district health staff is gaining popularity every day . . ."

Deputy Commissioner, Bara Banki.—". . . I was greatly impressed by the excellent start that has been made by the department. I have noticed substantial good results in all the town areas of the district."

District Magistrate, Mirzapur.—"The whole staff deserve great credit for the manner in which the cholera epidemic was kept under control and the increase in inoculation is a direct tribute to the district medical officer's personal energy and shows the degree to which he has earned the confidence of the public.

Chairman, District Board, Mirzapur.—"It is gratifying to find that he (the district medical efficer of health) and his staff have succeeded to a considerable degree in penetrating in various parts of the district and have tackled with sanitation and epidemics throughout. Vaccination has also considerably increased."

District Magistrate, Moradabad.—" A sound beginning has been made and the villagers are beginning to realise the advantages of sanitation . . . . Gradual progress is undoubtedly being made ".

Chairman, District Board, Moradabad.—" Though the scheme was introduced in the district only a few years ago yet it has fully justified its existence in the short time . . . . During my tour in the district I found that the lantern lessons and practical demonstrations given by the staff left an impression upon them (i.e., villagers). The health staff . . . . produced healthy influence on the young boys. The training . . . under village aid scheme is proving effective ".

District Magistrate, Allahabad.—" Progress in village sanitation has been made . . . . The village aid scheme has made considerable advance in a number of villages and . . . . it will be welcomed in other villages.

Chairman, District Board, Allahabad.—" The schemes of rural sanitation and village aid are being pushed on with most conspicuous zeal and energy and meet a genuine and crying need."

District Magistrate, Bulandshahr.—" The health scheme, on the whole, has improved steadily and your (district medical officer of health) continued efforts will, it is hoped, bear out fruits in no remote time."

Chairman, District Board, Lucknow.—" The year 1929 has been another year of continued progress in the useful work done by the Health department . . . I am glad to note that the health scheme is working well and people have begun to take interest . . . . I have myself visited some of these centres and have found these (village aid) dispensaries to be doing very useful work . . . ."

Deputy Commissioner, Rae Bareli.—" Sanitary work in this district has developed noticeably and the interest aroused in the masses remarkable. . . . I have walked through village after village during my tours which I found neat and clean . . . This is largely the effect of the propaganda for better health carried out by the district medical officer of health and his staff."

Chairman, District Board, Rae Bareli.—" People now in the district have begun to realise the importance of sanitation and the good that the Public Health department is doing to them . . . . Villages are now decidedly more sanitary and present a cleaner look than before . . ."

Deputy Commissioner, Hardoi.—" . . . . The sanitary administration of the district has been much improved by their (health staff's) indefatigable efforts."

Chairman, District Board, Hardoi.—" People of villages which were frequently visited have now begun to realise the importance of these sanitary measures."

District Magistrate, Fatehpur.—" The health scheme has progressed well and has fully justified its existence. The result of two years' working has been very encouraging . . . . " There is a definite improvement in the storage of manure heaps; these are now mostly stored outside the inhabited site . . . ."

Chairman, District Board, Fatehpur.—" . . . . the district medical officer of health and staff have shown a keen interest in their

work with the result that people have learnt to realise the value of the propaganda work."

District Magistrate, Muttra.—"The measures taken by you (district medical officer of health) and your staff (against small-pox) were prompt and adequate . . . : This duty (conservancy arrangement on famine test works) was discharged admirably by you and your staff with the result that no epidemic prevailed on these works in any form . . . I consider that during the year you have well maintained the success which attended the inauguration of the district health service in this district . . ."

Chairman, District Board, Muzaffarnagar.—"Thanks to their (district health staff's) efforts that the cholera and plague outbreaks could make no headway in the district. It is gratifying to note that the village uplift work is being steadily pushed on . . ."

Commissioner, Kumaun division (for Naini Tal district).—"I have to congratulate you and your staff on the measures which you took to combat plague . . . There is no doubt that the combined efforts of your staff and the revenue staff have resulted in more cleanliness in such villages as I have seen . . ."

Deputy Commissioner, Naini Tal.—"I congratulate you (district medical officer of health) on a very useful year's work accomplished by you and your staff."

Deputy Commissioner, Garhwal.—"I was on the pilgrim route during November and was glad to see that hospitals, water-supplies, etc., were in a distinctly improved condition since I saw them before."

When epidemics are not present improvement of rural sanitation claims the primary attention of the health staff. Progress on this head is slow but a general move for better sanitation is noticeable in nearly all districts. "Village uplift" or "rural reconstruction" committees have been started in the districts of Lucknow, Fatehpur, Partabgarh, Fyzabad, Unao and Pilibhit and these are of great help in stimulating interest in the matter. Local "uplift" or "sanitation" committees are reported to have been established in the larger villages in certain districts—mostly through the interest of the zamindars. A large number of military pensioned officers and soldiers live in the Fatehpur district and the District Magistrate there draws their attention towards the necessity of taking active interest in the sanitary improvement of their villages whenever they come to headquarters for the Soldiers Board's meeting. District medical officers of health should take every opportunity of attending such meetings. Although the revenue staff is not now directly concerned with rural sanitation, assistance of the district officers has been of considerable value. The officials of the Court of Wards in several districts have also given great help to the health staff in furthering improvement of rural sanitation in their estates.

The following are the broad lines on which the question of improvement of rural sanitation is being tackled :—

I. Labour gangs.—Petty sanitary improvements and simple anti-malarial works are performed by these gangs. In addition they clean villages, dig manure trenches, remove rubbish heaps outside abadi, construct soakage pits, and demonstrate to the villagers how to make them.

II. Village Aid Scheme.—Details of this scheme have been given in my report for the year 1928. This scheme has proved so effective as a

means of improving rural sanitation as to win general approbation of the district officers and chairmen of the local bodies. The figures given below will indicate the progress made in 1929 :—

	Up to end of 1928.	Up to end of 1929.
1. Number of sanitary wells	285	731
2. Number of village aid dispensaries	154	1,199
3. Number of villages in which complete scheme is in force ..	266	648
4. Number of villages in which partial scheme is in force ..	1,075	3,085

Similar progress is noticeable in regard to training in first aid and common accidents which forms part of the scheme. This training is given to adult villagers, school boys and teachers and subordinate village officials such as patwaris, mukhias, chaukidars and canal officials. Inspectors, and supervisors of Co-operative Societies are also trained.

Improvement of the work of the village *dais* is another part of the scheme. This has also made considerable progress. The health staff give them lectures on clean midwifery and supply small midwifery sets (as far as possible) containing a knife, some permanganate of potash, sterilised ash, soap, scissors, boric acid, cotton wool and thread.

III. Sanitary storage of manure and refuse.—An important factor in the improvement of rural sanitation is the proper storage of manure and village refuse. Present storage methods are unhealthy and the manure also loses most of its properties by long exposure. Under the village aid scheme villagers are therefore persuaded to remove their refuse outside the abadi and to keep their manure in covered trenches. The health staff have conducted active propaganda and opposition to the measure is gradually becoming less. In the Ajodhya estate the Court of Wards made a general endeavour to induce their tenantry to store their manure in pits and 8,350 such pits have been dug—embracing practically every village in the estate. In Partabgarh district 4,800 such pits have been dug.

Since 1928 the Assistant Director of Public Health, I range, has also been experimenting separately with several schemes for the storage of manure and refuse and the construction of latrines. In parts of the United Provinces where rainfall is heavy or where the sub-soil water level is high by reason of proximity to canals, trenches for the deposit of rubbish are not usually suitable because water accumulates in them. The manurial value of the refuse would also deteriorate. The assistant director of public health has therefore been experimenting with the following types of refuse dépôts in certain districts of his range :—

(*i*) raising of the mouth of the ordinary pit by 9″ from the ground level by making a mound all round the pit and utilising the earth excavated for the purpose ; and

(*ii*) putting up katcha enclosure for depositing rubbish. The earth required for constructing this is obtained from the adjoining fields.

In Muzaffarnagar district small enclosures, 2 to 3 feet high, have been made on shallow rubbish pits to prevent the flow of water into pits.

An endeavour is also being made to popularise the use of latrines. Several types, e.g., the trench pattern, enclosures, Bara type, etc., are being tried in several centres in the above districts to determine which meets with least opposition. The trench pattern on the whole seems more suitable as, if properly worked, it can be provided within 20 feet of abadi, the trench can be emptied every three months and the poudrette sold and the price realised can be utilised in providing screens, etc., of other latrines. As yet, however, no type is quite popular with the villagers. The cultivator has used the fields for purposes of nature for such a long time that intensive and continuous propaganda is required by the health staff to induce him to resort to latrines. Demonstration latrines at or near the headquarters of the sanitary inspectors, preferably constructed under a tree to protect the users from sun and rain, would be of value for demonstration purposes. In Bulandshahr and Moradabad districts the rubbish enclosures are freely used by the villagers for purposes of nature.

IV. Work through the village panchayats.—Attention continues to be given to the village panchayats as an important medium for improving rural sanitation. From the reports submitted by district officers it appears that larger number of panchayats are taking interest in rural sanitation and progress with village aid scheme is most noticeable in the panchayat villages. In Ghazipur first aid dispensary boxes have been purchased by 23 panchayats and in Azamgarh by 95 panchayats. In Fatehpur most of the panchayats have purchased similar boxes. Printed instructions in vernaculars are supplied with each box. Many panchayats now employ part-time sweepers for the general cleanliness of their villages and also undertake works of sanitary improvement, chiefly the improvement of wells and water-supplies.

Panchayat villages in the districts under the district health service show greater improvement due to the frequent visits made by the public health staff and the advice given by them. A distinct improvement in the outlook of the panches is reported from many districts. In Lucknow district two conferences of village panchayats held during the year provided excellent opportunity to the responsible officers to impress on the audience which consisted of all the panches of the tahsil the benefits to be derived from improved rural sanitation.

V. Model villages, etc.—A model village, named Nagla Khurd, in the Roorkee tahsil of the Saharanpur district was constructed in 1929. Fifteen water spout hand pumps have been sunk and houses have been constructed on sanitary lines. Fifteen rubbish pits have been dug and people have occupied the newly constructed houses. Another model village at Pure Dayal in Gonda district was built by the Court of Wards, Gonda, at a cost of Rs. 8,870. The village is composed of 24 houses, each detached and standing in its own compound. This is a good model and might with advantage be copied in other districts. In village Lalganj in the Rae Bareli district a model sanitary bazar is under construction.

I reproduce here a suggestion which Mr. Drake-Brockman, Commissioner of the Fyzabad division, makes for securing better village housing:

"In this connexion I should like to advert to a matter which struck me during my recent tour in the Gonda and Bahraich districts. The number of hamlets in Oudh is very large. Pressure of population on the soil as well as the general security of life has encouraged the construction of hamlets. Land for these seems very difficult to obtain as landlords grudge giving up any areas from cultivation. At the same time tenants are liable to ejectment if they construct houses on their holdings. Many hamlets appear to be crowded in baghs and others on odd pieces of uncultivated or unculturable lands. The Deputy Commissioner of Gonda recently invited me to open a model village constructed by the Court of Wards in Gonda. The idea that occurred to me was that an occasion for the foundation of a new inhabited site very seldom arises. Hamlets grow by accretion and are not usually created by one definite act of settlement. I suggest that what is required is something in the nature of what is known in the Western countries as "slum clearance." Where houses have been crowded and crushed together they or some of them require demolishing and re-erection. For this, land is necessary. The amount required will not ordinarily be much. Facilities might be created by legislation for the acquisition of land for such purposes on proof of need, and encouragement given for the construction of new houses either by the grant of takavi or by cooperative building societies. I believe the question of land to be the crux of the problem of better housing conditions."

VI. Small public health works.—At the close of the financial year 1928-29 the Board of Public Health had pending before them a number of applications for grants for minor public health works in notified areas, town areas, panchayat and other villages, funds for which could not be allotted during that year. The Board allotted Rs. 76,618 for these projects at the beginning of the financial year 1929-30 and also sanctioned *re-grants* aggregating Rs. 52,402. They also allotted Rs. 1,12,996 for other urgent sanitary schemes.

VII. Sanitary legislation in rural areas.—During the year 1929 the United Provinces Village Sanitation Act was amended and all measures relating to the improvement of the sanitation of the villages now rest on the district boards. Collectors are now concerned with advances for the repairs of wells only and for taking action in case of epidemics. The sanitary rules formerly enforced under the Village Sanitation Act have ceased to be in operation and it is now for the district boards to frame byelaws to regulate sanitation and other matters in these villages under section 174 of the District Boards Act. From reports received it appears that the cancellation of the rules under the Act has not been followed by district board byelaws in many districts and the absence of sanitary legislation in these villages is apt to make the villagers revert to unhealthy practices. More than one district officer has reported that the cancellation of the rules made under the Village Sanitation Act has produced a distinct setback in the movement toward the improvement of the sanitation of the rural areas. I am afraid that there is considerable basis for this fear.

In many districts byelaws for other public health matters were under the consideration of the district boards concerned. Only in one or two districts have these byelaws been passed. In the absence of byelaws the work done by the health staff often deteriorates one example of which is the soakage pits. In his review Mr. Drake-Brockman makes the following observations :—

"The District Medical Officer of Health has noted that where soakage pits have been constructed they become choked after an interval and those for whose benefit they were constructed revert to the use of ordinary insanitary *nabdans*. It might be legitimate in cases where soakage pits have been constructed to enforce their clearance and so their continued use by legislation, accompanied by penalties. So far I would be in agreement with the health officer's proposal to extend legislation. The Health department might be invested with powers to impose fines on those persons who let their soakage pits become blocked and revert to the use of a *nabdan*."

VIII. Increase in district staff.—The reports of the district magistrates, chairmen of the district boards, and of the district medical officers of health themselves comment on the inadequacy of the existing health staff. Since the service was first started in this province with the present staff work has expanded in many directions and the staff is proving inadequate to cope with all the additions to their duties that have to be made. An increase in the number of sanitary inspectors is urgently called for. Unfortunately the finances of the district boards do not permit them to appoint additional inspectors from their own funds.

The district magistrates of Azamgarh and Pilibhit suggest the appointment of lady health workers for the rural areas in order to improve the ideas of women-folk. Necessity for engineering personnel for the preparation of public health projects and their supervision during the course of construction continues to be felt.

IX. Bad condition of roads.—Lack of means of communication in certain districts presents a formidable handicap to the staff. In Ghazipur district certain places are practically isolated during the heavy rains and it is very difficult to reach them. In Kheri jungles and swamps render a quick response to epidemics extremely difficult. In Fyzabad, the district headquarters are situated in one corner of the district and the main arterial road through the district to Akbarpur tahsil is largely *katcha*. This tahsil is annually infected with plague and cholera and is very difficult to work by staff situated at headquarters. Local authorities agree that the driving of a good provincial road right through the district to Jaunpur border would greatly open up this backward tahsil and would greatly facilitate the reporting and suppression of outbreaks of epidemics. This matter has been referred to Government separately.

X. Acknowledgments.—Thanks are again due to the district officers for their valuable guidance and assistance to the officers of this department and for their helpful reviews and criticisms on the reports of the district medical officers of health. The interest taken by them in the various branches of this department has been of great benefit.

In accordance with the sanction of Government conveyed in G. O. no. 34/XVI—297, dated January 15, 1930, the detailed résumé of the work

done in each district which is no longer considered necessary has been omitted and a tabular statement showing necessary particulars for each district has been printed as appendix D to this report.

Expenditure by district boards on public health.

8. During the year 1928-29 the total income of the district boards in the United Provinces from all sources, including all Government grants, was Rs. 1,93,38,294 and excluding these grants Rs. 1,08,09,132.

During the year the district boards received from the Government or the Board of Public Health grants for public health purposes aggregating Rs. 3,78,649.

The total expenditure of the district boards on various public health purposes during the year was as follows:—

	Rs.	
(i) Vaccination	3,00,408	
(ii) Public Health establishment, their travelling allowance, and contingencies	2,26,906	This includes expenditure on subordinate district health personnel, the greater portion of cost of which is provided by Government, but disbursements are made by the district boards.
(iii) Epidemics	52,289	
(iv) All other public health purposes ..	2,06,910	
Total ..	7,86,513	

If the expenditure on specified public health purposes, for which the boards received grants, were to be excluded, the result is that the boards spent a sum of Rs. 4,07,864 from their *own* funds. This represents an expenditure of 3·77 per cent. of district boards' own income on public health. If the expenditure on vaccination were also to be excluded, the staff and other charges on which have more or less been fixed for the various district boards, the actual amount spent by them on rural sanitation, water-supply, epidemics, etc., would come to Rs. 1,07,456 only and would represent nearly one per cent. of their own income. This indicates a slight improvement over last year's figure which was ·74 per cent.

Medical officers of health in municipalities.

9. During the year 1929, the question of the appointment of a medical officer of health in the Sitapur municipality was under reference to that municipal board and the appointment was actually made from March 1, 1930, after prolonged correspondence.

Owing to financial stringency no medical officer of health could be appointed in the municipalities of Kasganj, Sambhal, Bulandshahr, Khurja, and Banda although these have already been brought on the list of third class municipalities required to employ medical officers of health. There are a few other smaller municipalities whose income exceeds Rs. 50,000 per annum—the limit laid down by Government for the appointment of medical officers of health—but the stringency in the provincial finances precludes early appointment of medical officers of health to these.

District medical officers of health continued to function as medical officers of health in smaller municipalities unprovided with medical officers of health of their own.

District medical officers of health and notified areas.

10. The relation of district medical officers of health to the notified areas has not hitherto been clearly defined, although these officers have been inspecting the sanitation of these areas. During the year under report Government issued orders formally appointing district medical officers of health as *ex-officio* medical officers of health of the notified areas in the districts concerned. The rules defining the powers and responsibilities of these officers are under the consideration of Government.

Public Analyst and his office.

11. Mr. P. S. MacMahon, M.Sc. (Manc), B.Sc. (Oxon.), F.I.C., held charge of the office of the Public Analyst to Government, United Provinces, from January 1 to April 30, 1929, and again from October 15 to the end of the year. During his absence on University Vacation and extraordinary leave from May 1 to October 14, 1929, his Assistant, Dr. B. M. Gupta, M.Sc., and Ph.D., acted as Public Analyst and Mr. S. C. Roy, M.Sc., was appointed to act as the Assistant Public Analyst.

Owing to the extension of the provisions of the Prevention of Adulteration Act to a very large number of localities and the consequent very heavy analytical work, a new whole-time post was created and sanctioned by Government and Dr. B. M. Gupta who has been working as a part-time Assistant Public Analyst since April 1, 1914, was appointed a whole-time Deputy Public Analyst on Rs. 1,000 in the grade of Rs. 900—50—1,500 (same as prescribed for non-service Assistant Directors of Public Health with effect from November 18, 1929. His place as Assistant Public Analyst was taken by Mr. S. C. Roy, M.Sc. with effect from December 2, 1929. A senior analytical assistant was also appointed in the grade of Rs. 100—5—150 with the sanction of Government with effect from May 18, 1929.

During the year under report the provisions of the Act were extended to the municipalities of Almora, Kairana (Muzaffarnagar), Nagina (Bijnor) and notified area Aonla (Bareilly) in respect of different common articles of food, to Nawabganj municipality, Rudauli notified area and Bara Banki Dewa, Satrikh, Zaidpur, Tikaitnagar, Daryabad, Fatehpur, and Ramnagar town areas in the Bara Banki district to Chunar, Chunar settlement and Ahraura notified areas, and Kachhwa, Ghurawal, and Robertsganj town areas in the Mirzapur district in respect of ghee and milk and to Jansath, Chartawal, Purkazi, Shamli, Thana Bhawan, Jalalabad, Jhinjhana, Khatauli, Miranpur, Budhana, and Shahpur town areas in the Muzaffarnagar district in respect of ghee alone.

The provisions of the Act were further extended to the Gorakhpur municipality in respect of tobacco, to the Mirzapur municipality in respect of milk, butter, edible oils, drugs, and sweetmeats and to the Bareilly municipality in respect of sugar, gur, honey, and rabri in addition to the articles in respect of which the provisions of the Act are already in force.

The total number of samples received for analysis during the year under report was 3,311 as compared with 1,938 in 1928, 1,611 in 1927 and 968 in 1926. The increase is due partly to the extension of the provisions of the Act to more places and partly to the fact that the medical officers

of health are taking greater interest in the prevention of adulteration of food-stuffs and drugs as mentioned in the annual report for 1928.

Of the 3,311 samples received, 2,319 were of ghee, 791 of milk, 16 of butter, 103 of edible oils, 39 of flour, 3 of tea and 40 miscellaneous. Out of the above, 120 samples (52 of ghee, 51 of milk, 2 of edible oils, 8 of tobacco, 1 of khowa, 1 of puri, 3 of vegetable ghee, 1 of dahi and 1 of sweetmeat) could not be analysed as they were either received in a damaged condition or were found unfit for analysis. Of the remaining 3,191 samples, 434 of ghee, 344 of milk, 44 of edible oils, 36 of flour, 13 of butter, and 7 miscellaneous were certified as adulterated. In the case of 9 samples percentage composition was reported.

782 persons were prosecuted under the Act, of whom 536 were fined and 53 acquitted. One person was warned, one caned, and 24 absconded. Five cases were compounded by the chairmen concerned, six were withdrawn, while 156 were pending before the courts at the time of the submission of the report.

The total amount of fines realised was Rs. 12,202 against Rs. 7,921 in the preceding year.

No samples were received for analysis from several municipalities, notified areas, etc. The attention of the local bodies concerned has been called to this.

Of the 3,311 samples mentioned above, 19 samples (9 of ghee, 1 of puri, and 9 of quinine mixtures) were received from the miscellaneous sources as detailed below :--

1.	The Civil Surgeon, Hardoi	1 sample of ghee from each.
2.	The District Magistrate, Muttra	
3.	The District Medical Officer of Health Garhwal.	
4.	The Sub-Divisional Magistrate, Pilibhit	5 samples of ghee.
5.	The District Magistrate, Muzaffarnagar	1 sample of ghee and 1 sample of puri.
6.	Municipal Medical Officer of Health, Lucknow.	9 samples of quinine mixtures.

The sample received from the Civil Surgeon, Hardoi, was certified as adulterated. Those from the District Magistrate, Muzaffarnagar, and the Sub-Divisional Magistrate, Pilibhit, were received either broken or in a condition unfit for analysis. The remaining samples of ghee were certified as genuine.

A sum of Rs. 30 was deposited into the sub-treasury at Shahabad in connexion with the sample received from the secretary, municipal board, Shahabad (Hardoi district).

As stated in the last year's report, a large number of samples of quinine were received for analysis from 46 municipal and district medical officers of health towards the end of the year 1928 and early in 1929. A detailed report in the matter was submitted to Government. The conclusions arrived at were summarised as follows :—

"It is obvious from the above that no attempt is being made to standardize the quinine issued in these provinces and also that the method of making up the tabloids is antiquated. In the vast majority of cases it is thus impossible for a customer to know how much quinine he is

getting in a pill or tabloid. There is no evidence of wholesale adulteration of the quinine itself with other alkaloids. The methods of making up tabloids require revision". The matter has been referred by the Local Government to the Government of India who are considering the question of appointing a committee to consider and recommend the measures necessary for controlling importation, manufacture and sale of drugs recognised by the British Pharmacopoeia but of impure quality or defective strength.

During the year under report no samples of food-stuff and drugs were analysed by the Chemical Examiner to Government under the Prevention of Adulteration Act.

The number of samples received during 1929 is about 70 per cent. higher than the corresponding figure for 1928. When the official inspectors throughout these provinces will commence to send samples regularly and in adequate numbers, the total number of samples to be examined each year by the Public Analyst will be still higher. To meet this heavy work a comprehensive scheme regarding staff and accommodation has been submitted to Government.

Inadequacy of fines imposed by honorary magistrates in cases instituted by medical officers of health under the Prevention of Adulteration Act.

12. In spite of the fact that the district magistrates have been addressed on the subject, the fines imposed by the trying magistrates range between one to five rupees only and are too light to produce any deterrent effect. A circular letter on the subject has been issued by Government and it is hoped that it will have the desired effect.

The Public Analyst is of the opinion that unless there are special reasons for imposing light punishment each offender under the Adulteration Act must pay a minimum fine of Rs. 15 which is approximately the expenditure incurred for the detection of an adulterated sample. In Great Britain the offenders under the Prevention of Adulteration Act have not only to pay fines but in many cases they have also to bear costs. I agree with him.

In the last year's report it was stated that some essential precautions in the collection and submission of samples were missing. This is illustrated by a case which occurred during the year under report. An orderly of a medical officer of health on getting some gratification from a vendor had removed the original sample from the parcel and replaced it by another. The orderly was handed over to the police and convicted. To prevent a recurrence of incidents of similar nature a circular was issued to all officers concerned directing them that in future samples should be properly sealed and packed in the presence of a responsible official so that they could not be opened without the seal being broken or otherwise tampered with.

Maternity and child-welfare work.

13. The information contained in this paragraph has been taken mostly from the annual report of the Lady Chelmsford Maternity and Red Cross Society Child-Welfare League, United Provinces branch, kindly furnished by the honorary secretary of the League.

During the year under report two meetings of the Council and three meetings of the Executive Committe of the League were held and certain changes made in the personnel of the Council. On the retirement of

Colonel R. F. Baird, I.M.S., Inspector-General of Civil Hospitals, the Council of the League unanimously appointed Lieut.-Colonel C. L. Dunn, C.I.E., D.P.H., I.M.S., Director of Public Health, to be the chairman of the Executive Committee.

New maternity and child-welfare centres were opened at Bulandshahr, Bara Banki, Etawah, Fyzabad, Moradabad, Pauri (Garhwal), Ranikhet and Roorkee. Almost all the district headquarters have now been fully staffed and it is now proposed to expand the work in rural areas. With this view a scheme estimated to cost Rs. 2,45,400 has been drawn up and will be launched as soon as it is ascertained how far local bodies are prepared to contribute their share and when suitable workers are available. The scheme consists of three stages. In the first stage each tahsil headquarters will be provided with a midwife; in the second stage all towns and villages with a population of 5,000 or over will be staffed, and in the third, groups of villages having an aggregate population of 5,000 will be given a midwife.

During 1929-30 Government sanctioned a recurring grant of Rs. 1,22,600. Out of this the Council of League sanctioned a sum of Rs. 12,140 for improvement of indigenous dais and Rs. 81,140 as grants and donations to the local branches.

The chief functions of the League were the same as in 1927 and 1928, viz. (1) maternity and child-welfare work, (2) improvement of indigenous dais, (3) training of midwives, assistant midwives, and health visitors and (4) propaganda work such as holding baby weeks or other shows conducive to the attainment of the above objects.

A.—*Municipalities and cantonments.*

An account of the maternity and child-welfare work done and improvement of indigenous dais carried on is given below :—

(1) *Allahabad city.*—There were two centres in the city till October 7, 1929, when one of them known as the provincial training centre was moved to Lucknow. All the expenses in connexion with this centre are borne by the provincial League. During the year, the centre sent 27 candidates for dais certificate training organised by the State Medical Faculty, United Provinces and 23 were successful. This was a very satisfactory record. The four candidates who were receiving training at this centre at the expense of the Nepal Government passed out also.

The centre at Hewett Road is administered by the local League. The building which was purchased by the League last year having proved unsuitable was sold, and the centre is at present housed in a rented building.

(2) *Allahabad cantonment.*—The centre at the Allahabad cantonment started its actual work from June, 1929 and dealt with all persons residing in both new and old cantonments.

(3) *Bareilly.*—There are three centres in the city. They are in the charge of a lady doctor having British qualifications. The local League started the system of charging fees from well-to-do people. The poor were as usual treated free and were also given clothing, blankets, etc. The league was able to give regular clothing, binders, etc., as the medical officer in charge organised sewing classes which were well attended by the wives of raises who also brought gifts of clothes. The twelve indigenous dais on the

staff of the local league have been working for the last seven years but were given more responsible work during the year under report under the supervision of the trained staff.

(4) *Benares.*—The maternity and child-welfare work at Benares has not yet been organised on proper lines and no committee has yet been formed. The municipal board maintained eight midwives at its own expense. The maternity and child-welfare work was also carried on at the Kashi Anathalya.

(5) *Agra.*—There were three centres—Balka Basti, Nai Basti, and Lady Lyall Hospital—the last having been opened towards the end of the year. The first two centres were attended by a large number of children, many of whom were over five years of age. They were bathed or taught to bathe themselves by ayahs. Children who were subject to minor ailments were attended by the sub-assistant surgeon in charge.

Efforts are being made to confine admission to children under five years of age. Classes for indigenous dais were held, but the attendance was very poor. The dais however were not hostile and occasionally called the staff to their cases. The health visitor for the centre at the Lady Lyall Hospital was appointed in the middle of November. This centre is to be an anti-natal centre to the hospital. It will be opened twice a week and will be in charge of Dr. Sherman. The municipal board was approached for an increase in the grant but did not respond to the request. The request for a grant made to the district board also met with the same fate.

(6) *Lucknow city.*—The work of the league is managed by a committee with Mrs. Burke as president and the medical officer of health as honorary secretary. There were six centres under the local league till September 1, 1929 when one of them known as the Ganeshganj centre was taken over by the health school authorities. The staff consisted of one medical superintendent of British qualifications, five health visitors, and 13 midwives, but has recently been modified owing to financial reasons.

(7) *Lucknow cantonment.*—The centre was closed from October, 1929, owing to the unsatisfactory work of the health visitor and her consequent removal from service. The Assistant Director of Public Health, II range, inspected it and submitted a full report. It requires to be re-organised and put under proper supervision. During the period the centre was functioning two classes for indigenous dais were held every week with an average attendance of seven dais. The work of these dais was supervised by the health visitor and the medical officer in charge of the cantonment general hospital.

(8) *Cawnpore.*—The work of the league is managed by a committee consisting of 11 members with Mrs. Taylor, a member of the provincial League, as president. The activities of the local league have steadily expanded and now it has four centres in different parts of the city. The scheme was financed chiefly by the Cawnpore municipality, the Red Cross Society, and Government each of whom contributed Rs. 10,000 annually. In 1929 the Red Cross Society reduced their contribution to Rs. 7,000 as they were of opinion that more financial assistance should be obtained locally.

(9) *Muttra.*—There are two centres in the city—one is in a rented building and the other in a building given by the municipal board.

(10) *Muttra cantonment.*—A centre has been started from September 1929, and is under the control of the cantonment authorities.

(11) *Brindaban.*—There is a centre here with a midwife incharge paid by the municipal board out of a grant of Rs. 550 from the Provincial League funds.

(12) *Fyzabad.*—The centre was started early in 1929 through the efforts of Rai Bahadur Dr. Ram Sarup, Srivastava, civil surgeon, Fyzabad. It is managed by a local committee with the Deputy Commissioner as president and the civil surgeon as *ex-officio* superintendent and honorary secretary. The staff of the centre consists of one Anglo-Indian nurse and two midwives.

(13) *Fatehgarh.*—The staff of the local league consisted of only one midwife. The financial position is very unsatisfactory as the municipal board is not meeting its share of expenditure and if this state of affairs continues it is very likely that the Provincial League may also reduce their grant.

(14) *Dehra Dun.*—This centre came into existence early in December, 1929, and continued to perform its work of attending to mothers and children and supplying medicines free of charge. The Superintendent of Dehra Dun is the president of the league. Five probationer midwives are receiving training and are paid scholarships from the Provincial League funds. The centre is becoming popular and the attendance has considerably increased.

(15) *Gorakhpur.*—The centre continued to function satisfactorily during the year. A class of dais has been in existence for the last four years. During the year under report an oral examination was held and twelve dais were declared successful. Another batch of seven dais is under training. The municipal board gave a set of instruments to all the successful dais and arrangements have been made for a higher course for them.

(16) *Moradabad.*—The league began to function from November 1, 1929, and it is too early to pass any remarks on its working. There are two centres. The work of the league is managed by a well constituted governing body of 32 members with the collector as president and the civil surgeon as honorary secretary.

(17) *Naini Tal.*—The centre was started during the year under report. The scheme provided for three midwives and one health visitor but at present one midwife is working.

(18) *Mussoorie.*—There was a satisfactory increase in the number of cases conducted by the staff and visits as compared with the previous years. The centre is conveniently situated and if clinics are held during the season for the benefits of mothers and babies it will be an improvement.

(19) *Meerut.*—The staff consists of a medical woman, a health visitor, and two midwives. The work of the centre at Meerut shows an improvement. The appointment of a medical woman has greatly improved matters. It is hoped that the quality of the work will be improved next year and the results will be still better if the indigenous dais and the public co-operate with the staff. Byelaws for the registration and licensing

of dais are under the consideration of the municipal board. The enforcement of these byelaws will greatly strengthen the hands of the staff.

(20) *Saharanpur.*—There was only one midwife working at the centre. It is proposed to launch a well planned scheme next year. The municipal board is contemplating the enforcement of registration of indigenous dais.

(21) *Bahraich.*—The municipal board placed a building at the disposal of the local child-welfare league. Two midwives worked in the municipal area during the year, a third having been appointed only lately. It is proposed to replace her by a qualified health visitor. The work of the local league is managed by a committee consisting of six members and presided over by the Deputy Commissioner.

(22) *Jhansi.*—The work of the league is managed by a committee with Miss E. H. Thrott, M.D.C.M., as president and the medical officer of health as honorary secretary. There are two midwives.

(23) *Banda.*—The midwife in charge of the centre having resigned it practically remained closed during the year.

(24) *Almora.*—The centre is located in a rented building and is in charge of a midwife. Several attempts made to start a class for dais did not prove successful. Literature regarding child-welfare was freely distributed. Magic lantern lectures and cinema shows were also organised.

(25) *Ballia.*—The work of the league which is managed by a committee consisting of a president and 11 members is progressing satisfactorily. There is no building of the centre but the midwife attached is allowed house rent and resides in the city.

(26) *Bijnor.*—Three midwives are working under the local league at Bijnor, Kiratpur and Haldaur satisfactorily.

A meeting of the league was held under the presidency of the District Magistrate to which all the chairmen of the local boards were invited and all of them agreed to the maintenance of midwives in their municipalities.

(27) *Orai (Jalaun).*—The staff consists of a health visitor and a midwife. The Collector is the chairman and the civil surgeon honorary secretary of the league.

(28) *Fatehpur.*—During the year the work of the maternity and childwelfare association expanded in rural areas. The city centre which is under the direct control of the joint secretary of the local league and the civil surgeon worked satisfactorily. Forty-four indigenous dais were trained and passed the examination.

(29) *Hardoi.*—The Deputy Commissioner is the chairman of the local league and the district medical officer of health honorary secretary. There is only one midwife on the staff. The financial position is very unsatisfactory.

(30) *Mainpuri.*—The centre has been working since July, 1928 and is progressing fairly well.

(31) *Rae Bareli.*—The staff consisted of one health visitor and three midwives. The local dais were encouraged to call in the services of the trained staff by allowing annas 8 per case. The members of the trained staff who are strictly prohibited from charging any fee from the public are also paid annas 8 for every case conducted by them over and above 12

cases in a month. The rural and urban dais are also trained by the health visitor.

A baby clinic was also started and children who attended regularly were given kurtas, etc.

Propaganda by means of magic lantern and a baby cinema which belongs to the local league was also carried out successfully.

The centre has also a set of models to serve as a permanent exhibition.

His Excellency the Governor kindly paid a visit to the centre and was interested in what he saw. A play was enacted in honour of His Excellency's visit and a sum of Rs. 732 after defraying the expenses of the performance was given to the district league as a donation.

(32) *Sitapur.*—The midwife attached to the centre was discharged in September, 1928 for bad work and her place could not be filled then for want of a qualified midwife. During the year under report two qualified midwives were appointed to work in the Sitapur city under the supervision of the medical woman in charge District Hospital, Sitapur.

(33) *Shahjahanpur.*—The league charges nothing from the patients attended by the staff with a view to make the movement popular and enable the public to avail themselves free of the services of the trained midwives to which they are not yet accustomed. The results were reported to be satisfactory and the midwives had more work than they could cope with.

The medical woman of the Dufferin Hospital was allowed a remuneration of Rs. 50 per mensem excluding tonga expenses to supervise the work of the midwives.

(34) *Ranikhet cantonment.*—The centre has been started only lately. Its finances are therefore rather low.

(35) *Lansdowne cantonment.*—The work of the cantonment centre is managed by a committee with the officer commanding the station as president and the station staff officer as honorary secretary. The staff consists of a medical woman of the sub-assistant surgeon class and a midwife.

(36) *Partabgarh.*—The centre was closed for the last few months for want of a qualified midwife. Steps to engage one have been taken.

(37) *Muzaffarnagar.*—The centre remained closed throughout the year for want of a midwife. One has however been posted lately.

(38) *Unao.*—During the year under review the administration of the league was handed over to a committee newly formed. There is a midwife working. The municipal board discontinued all help to the newly-formed league.

B.—Districts.

In districts in which the district health service has been introduced the district health staff are interesting themselves in maternity and child-welfare work and centres have been opened and midwives appointed in various places. These are paid by the local authorities or by District Central Leagues.

(1) *Allahabad.*—275 village dais were trained and 470 delivery cases were attended by them.

(2) *Benares.*—The trained midwife at the Chandauli tahsil gave lectures, trained a number of village dais (chamarins) and conducted labour cases.

(3) *Lucknow.*—In all 71 indigenous dais were trained and provided with boric acid, thread, etc. It is proposed to open a maternity and child-welfare centre at Mohanlalganj towards the cost of which the district board has sanctioned a sum of Rs. 240.

(4) *Muttra.*—Centres exist at Sadabad, Sahpau, Mahaban, Kosi and Gobardhan. There is a provision for a midwife under the Dufferin Fund rural scheme for Baldeo also but the midwife has not yet joined.

(5) *Gorakhpur.*—There is a centre at Deoria in charge of a midwife.

(6) *Moradabad.*—Three trained midwives working at Kanth, Thakurdwara and Hasanpur did good work in training the local dais.

(7) *Naini Tal.*—127 village dais were trained in aseptic handling of the maternity cases and some of them were provided with scissors, thread, etc.

(8) *Bahraich.*—Midwives are posted at Nanpara and Bhinga. 107 village dais were trained to conduct labour cases. Most of them were supplied with scissors, thread balls, etc.

(9) *Ballia.*—There was no midwife to work in the district. A good number of indigenous dais were trained by the Public Health staff and were supplied with knives, thread, etc.

(10) *Fatehpur.*—During the year the work of the Maternity and Child-welfare Association expanded in rural areas. There are centres at Bindki, Jehanabad and Kishenpur each in charge of a qualified midwife. A centre was started in Jehanabad only in November. The dai of Kishenpur visits Khaga twice a week and trains indigenous dais both at Kishenpur and Khaga.

(11) *Rae Bareli.*—There is a centre at Salon and more will be opened at Rae Bareli, Dalmao and Maharajganj tahsils on arrival of qualified midwives who have been ordered to take over charge.

(12) *Sitapur.*—Gratifying results have been achieved by training village dais in clean methods of conducting labour cases.

Biswan.—There is a centre here with a midwife.

(13) *Partabgarh.*—Sufficient funds not being available maternity and child-welfare centres were not started in the rural areas. Instruction was however imparted to 147 indigenous dais in different villages. People are gradually realizing the advantages of clean midwifery. In fact in one village the villagers supplied the dais with clean clothes at their own expense.

(14) *Muzaffarnagar.*—The maternity and child-welfare work in the rural areas is still in its infancy. Village dais were trained by the public health staff in the principles of cleanliness, etc.

(15) *Unao.*—The Public Health staff trained a large number of village dais in rules of midwifery and 24 sets of boxes containing knives, thread, etc., were distributed to them.

(16) *Azamgarh.*—Centres have been opened at Mau, Lalganj, Deogaon, Ghosi and Azmatgarh and midwives appointed. The work at Mohammadabad was stopped as a qualified midwife was not available.

(17) *Budaun.*—There are centres at Gunnaur, Bhilsar and Bisauli and midwives are attached to them.

(18) *Sultanpur.*—A centre was started at Amethi and the opening of more centres has been sanctioned by the local league. Maternity and child-welfare exhibitions were held at three places in the district and the local visitors were instructed on the subject with the help of posters, magic lantern demonstrations and clay models.

(19) *Bulandshahr.*—Three centres were started and three more are expected to be opened in the near future. 250 indigenous dais in 106 villages were trained and supplied with the necessary medicines and instruments.

(20) *Jaunpur.*—287 village dais were trained by the Public Health staff and necessary instructions given.

(21) *Mirzapur.*—At 17 centres dais were trained in clean midwifery.

(22) *Kheri.*—A centre was started at Oel and a midwife appointed. The public of Gola is also anxious to have a qualified midwife to work in that town and the town magistrate has deposited Rs. 300 with the local league.

(23) *Basti.*—The services of the district board midwife who worked in the rural areas were dispensed with for unsatisfactory work. 84 indigenous dais were trained in different villages.

(24) *Hamirpur.*—The sub-divisional officer is president and the tahsildar honorary secretary of the local league. Local dais are being trained gradually. The trained dais who worked satisfactorily were given a set of instruments by way of reward.

A statement showing the number of cases conducted by the child-welfare staff, the number of deaths and the death-rates per mille of the population amongst cases which were attended as well as amongst those not attended by the maternity and child-welfare staff together with some other particulars is appended:—

District.	Number of cases conducted by the maternity staff without indigenous dais.	Number of cases conducted by the maternity staff with indigenous dais.	Total of columns 2 and 3.	Number of deaths of infants amongst the cases conducted by the staff with and without indigenous dais.	Infant mortality rate per mille in cases conducted by the child-welfare staff.	Number of deaths among infants under one year of age in cases not attended by the child-welfare staff.	Infant mortality rate per mille in cases not attended by the child-welfare staff.	Number of visits paid by the staff in patients' own homes.	Number of infants treated in the centre.	Number of mothers treated in the centre.	Total of columns 10 and 11.	Number of cases sent to hospital by the staff.
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Allahabad	1,289	192	1,481	100	67·52	1,648	313·13	6,015	3,062	977	4,039	17
2. Allahabad cantonment ..	50	66	116	9	77·58	14	875·00	1,404	268	1,655	1,923	7
3. Almora	28	5	33	2	63·64	45	185·18	202	200	279	479	2
4. Agra	14	5	19	..	..	2,426	234·60	1,268	10,140	3,688	13,828	10
5. Aligarh	..	..	..	..	..	..	..	..	..	..	..	..
6. Azamgarh	142	..	142	..	..	107	297·22	145	12	13	25	..
7. Banda	17	1	18	9	500·00	111	195·07	190	20	23	43	..
8. Bahraich	38	50	88	4	45·45	182	194·69	374	..	..	..	4
(a) Bhinga	31	117	148	2	13·51	75	510·20	290	..	..	..	..
(b) Nanpara	21	23	44	..	..	107	288·41	281	..	..	..	1
(c) Kaisargunj	..	..	..	..	..	..	..	..	..	..	..	..
9. Bareilly	955	1,049	2,004	101	50·39	649	199·02	13,429	1,668	1,411	3,079	91
10. Bareilly cantonment	..	..	..	..	..	..	..	..	..	..	..	..
11. Ballia	37	12	49	2	40·81	76	217·14	340	..	..	..	2
12. Bijnor	22	18	40	15	375·00	207	219·00	750	315	140	455	2
13. Bara Banki	..	..	..	..	..	..	..	..	..	..	..	..
14. Basti	...	..	..	..	..	..	..	..	..	..	..	..
15. Benares	705	..	705	5	7·08	3,242	372·90	8,460	..	..	..	..
16. Budaun	..	..	..	..	..	..	..	..	..	..	..	..
(a) Bilsi	35	89	124	5	40·32	62	488·28	794	..	..	..	..
(b) Gunnaur	6	48	54	..	..	70	344·82	380	..	..	..	..
(c) Datagunj	..	..	..	..	..	..	..	..	..	..	..	..
(d) Ujhani	19	202	221	4	18·09	100	465·11	1,796	3	1	4	1
(e) Sahaswan	..	..	..	..	..	..	..	..	..	..	..	..
(f) Bisauli	15	18	33	..	..	41	216·23	597	..	..	..	..
17. Bulandshahr	..	..	..	..	..	..	..	..	..	..	..	..
18. Cawnpore	1,612	1,356	2,968	181	67·73	2,808	662·57	41,090	9,473	2,526	11,999	133
19. Dehra Dun	157	384	541	28	51·75	237	393·69	15,409	685	1,067	1,752	6
20. Etawah	..	..	..	..	..	..	..	..	..	..	..	..

21.	Fatehpur ..	43	265	308	..	..	198	400·80	9,168	..	..	..	..
22.	Fatehgarh	25	53	78	8	102·56	783	343·31	542	..	..	..	..
23.	Fyzabad ..	64	2	66	1	15·15	456	374·69	458	129	96	225	6
24.	Gonda ..	34	66	100	17	170·00	39	322·31	846	38	47	85	57
25.	Ghazipur ..	..	..	..	..	..	..	..	..	..	..	..	..
26.	Gorakhpur	78	121	199	6	30·15	550	259·31	99	152	..	152	14
27.	Hamirpur..	820	574	1,394	38	27·26	213	848·60	13,717	93	31	124	3
28.	Hardoi ..	40	..	40	..	..	116	330·48	1,017	11	..	11	2
29.	Jaunpur ..	..	..	..	..	..	..	..	..	..	..	..	..
30.	Jhansi ..	418	197	615	30	48·78	928	343·06	4,056	1,025	749	1,774	101
31.	Jalaun (Orai)	69	21	90	7	77·77	67	150·90	6,176	..	..	..	3
32.	Kheri ..	65	2	67	..	..	52	143·64	1,892	..	..	..	1
33.	Lucknow ..	597	925	1,522	366	239·16	4,118	514·36	87,241	304	107	411	96
34.	Lucknow cantonment	..	..	..	..	..	..	..	..	..	..	..	..
35.	Lansdowne	..	..	..	..	..	..	..	..	..	..	..	..
36.	Muttra ..	113	199	308	16	51·28	841	318·80	5,450	2,619	509	3,128	19
(a)	Kosi Kalan	1	176	177	11	62·15	..	..	..	..	..	..	1
(b)	Mahaban ..	8	190	198	2	10·10	..	..	..	..	..	..	4
(c)	Sadabad ..	145	9	154	20	129·87	..	..	1,303	58	80	138	1
(d)	Sahpau ..	95	75	170	5	29·41	..	..	..	..	..	..	..
(e)	Gobardhan	32	22	54	3	55·55	..	..	749	..	..	..	1
(f)	Brindaban	197	216	413	39	94·43	..	..	4,170	..	..	..	..
37.	Meerut ..	143	68	211	44	208·53	688	215·54	1,929	2,426	3,178	5,604	59
38.	Muzaffarnagar	10	1	11	..	..	231	207·73	17	..	..	..	1
39.	Moradabad	14	14	28	1	35·71	1,126	228·63	142	..	..	..	1
40.	Mussoorie..	26	12	38	4	105·26	25	166·66	481	..	..	..	2
41.	Mirzapur ..	..	..	..	..	..	..	..	..	..	..	..	..
42.	Mainpuri ..	108	18	126	9	71·43	25	213·67	8,259	245	147	392	1
43.	Naini Tal ..	..	..	..	..	..	..	..	..	..	..	..	..
44.	Pilibhit ..	..	..	..	..	..	..	..	..	..	..	..	..
45.	Partabgarh	25	10	35	5	142·85	41	181·41	350	..	..	..	2
46.	Pauri (Garhwal)	87	..	87	7	80·46	20	..	302	1,686	1,921	3,607	11
47.	Rae Bareli	201	378	579	13	22·45	183	..	5,377	486	22	508	13
48.	Ranikhet	15	..	15	1	66·66	2	32·26	20	8	9	17	7
49.	Soron (Etah)	..	..	..	..	..	..	..	..	..	..	..	..
50.	Saharanpur	30	..	30	3	100·00	1,175	371·71	..	..	..	..	..
51.	Sitapur (Khairabad) ..	31	19	50	..	..	383	298·98	1,689	50	..	50	..
52.	Shahjahanpur	30	356	386	20	51·81	656	246·70	3,290	..	..	..	12
53.	Sultanpur ..	..	..	..	..	..	..	..	..	..	..	..	..
54.	Unao ..	99	..	99	..	..	130	40·88	557	..	..	..	2
	Total ..	8,856	7,624	16,480	1,143	69·35	24,083	283·56	2,52,520	35,176	18,676	53,852	696
	Total for 1928 ..	8,903	5,524	14,427	,228	85·12	22,488	284·55	2,59,123	21,479	8,982	30,461	1,518

NOTE.—Percentages given by the secretaries in charge of the centres cannot be taken to be correct until thorough check is exercised by outside agencies and each and every child is seen alive at the end of one year.

"Training of probationer dais and midwives."

Like last year probationer midwives were trained at the Women's Medical School, Agra, and at the various maternity and child welfare centres. As usual, two examinations were held during the year. Out of 61 candidates who appeared for dai and midwifery examinations, 49 came out successful. The four candidates who were sent for training by the Nepal Government also passed out. At present 80 candidates are under training and are receiving scholarships from the Provincial League funds. They are all under agreement to serve the provincial League for two to three years wherever ordered in the province after passing out.

The State Medical Faculty, United Provinces, have again changed the rules according to which the dais' certificate examination has been abolished and substituted by assistant midwives' examination. Under the new rules the examination of assistant midwives will be held in one of the vernaculars and that of the midwives in English. The course of training for both the examinations is for 12 months.

As the demand for qualified midwives was heavy, the Provincial League allotted Rs. 21,600 for the training of 100 midwives and it is proposed to train 150 candidates during 1930-31 to cope with the situation created due to the opening of various centres in the towns and in rural areas.

Byelaws for midwives and dais were framed by the municipal boards of Najibabad, Moradabad, Naini Tal and Bijnor and confirmed by the divisional commissioners concerned. Similar byelaws are under the consideratian of several other municipal boards.

Baby Weeks.

14. During the year under report baby or health weeks were held at numerous places.

As a result of these functions which were greatly appreciated by the public a number of new maternity and child-welfare centres were started.

The Superintendent, Medical Aid to Women, attended all the functions and gave demonstrations on the maternity and child welfare models and by magic lantern as far as it was possible.

Cinema shows were also organised at Naini Tal, Bhowali, Ranikhet and Almora. A film on maternity and child-welfare is under preparation and will be available for propaganda work shortly. Local authorities rendered valuable help in this connection and made these shows a success.

As usual, the officers of the Hygiene Publicity Bureau attended baby or health weeks and gave interesting and instructive practical demonstrations with exhibits on hygiene and sanitation. They also gave lectures accompanied by magic lantern.

As usual, the baby or health weeks formed part of the district fairs and exhibitions wherever these were held.

D.—General Remarks.

Sanitary progress.

15. The details of sanitary improvement effected or in progress in these provinces in 1929 will be found in Section IX and Appendix A of this report as well as in the report of the Superintending Engineer, Public Health department, which is annexed.

The Provincial Board of Public Health.

16. During the financial year ending March 31, 1930, six meetings of the Board of Public Health were held—three at Lucknow, two at Naini Tal and one at Allahabad. Further details are contained in the report of the Board of Public Health, which forms Appendix A to this report.

Improvement of water supplies in rural areas.

17. As will be noticed from previous years' reports, the subject of the improvement of water supplies in the rural areas has received and is receiving the attention of the Public Health department. As experience has shown that grants made to district boards for installing pumps in wells have not been used in many cases or used improperly owing to difficulties experienced in their working and lack of provision of suitable types of pumps in spite of issue of detailed instructions, grants are made by the Board of Public Health to such local bodies as give an undertaking to employ mistris to look after them and to maintain them in proper order. A large portion of the allotment under head "Rural sanitation" is distributed by the Board of Public Health as grants-in-aid towards the improvement of wells. Grants are also made for this purpose from the allotment for pilgrim centres. The areas selected are mostly compact villages in which the whole population live, more or less, in one abadi which forms the centre of trade for the surrounding area and in which there is usually a fixed weekly or bi-weekly market to which villagers come to obtain supplies and sell their goods, important places of fairs, pilgrim routes, and pilgrim centres. Appreciable grants have also lately been made by the Board of Public Health for the improvement of water-supplies at the Piran Kaliar, Debi Patan and other small fairs, the sacred tanks at Misrikh and Gola Gokarnnath, the Banjatra route in the Muttra district, the Panchkosi in the Benares district, and the pilgrim route in Garhwal.

In order to have a regular programme for the improvement of wells, instructions were issued to the district medical officers of health in 1928 to prepare a register of wells in their districts. Some further instructions were issued in 1929. Enquiries made show that steps have been taken by district medical officers of health to have the necessary census carried out.

At the instance of this department the Local Government drew the attention of all the district boards in the province to the desirability of requiring the owners of wells to have them cleaned in February or March about the time of the *holi* festival and issued instructions to them to frame byelaws to secure that the owner or the person having control over a well the water of which is used by the public for drinking, should annually at a season to be prescribed by the board clean the well of silt, refuse or decaying vegetation.

In reviewing the annual report of the district medical officer of health, Allahabad, Kunwar Maharaj Singh, M.A., C.I.E., Commissioner, Allahabad division, has remarked, "I am of the opinion that in the absence of large sums of money for rural sanitation one of the chief objects of the district health staff should be to see that the wells, from which drinking water is obtained, are adequately protected. This is the chief need in rural areas and should always be possible in villages with panchayats under the United Provinces Village Panchayats Act." In this I entirely agree with him.

Appendix B attached to this report shows the details of expenditure incurred during 1929 of the grants made to district boards in previous years.

Leper Asylums.

18. Owing to certain difficulties, the question of establishing a leper colony at Benares by the Salvation Army had to be dropped. Copies of the motions by Dr. Germano Correia, delegate of Portuguese India, at the international Congress of Tropical Medicine and Hygiene regarding international campaign against lepers having been received from Government the assistant directors of public health on general duty and other authorities were consulted and as a result a scheme drawn up by Dr. A. N. Forman, M D., Superintendent, Naini Leper Asylum, Allahabad, for a systematic campaign against leprosy within a district area was submitted to Government with a recommendation that it may be adopted as a transitional scheme in place of the recommendations made by the Leper Committee held in 1921, under the presidentship of Lieut -Colonel, C. L. Dunn, I.M.S.

Municipal and district medical officers of health were appointed to be inspectors of lepers in the following municipalities and districts :—

1.	Dehra Dun municipality.	6.	Amroha municipality.
2.	Bareilly do.	7.	Lucknow do.
3.	Moradabad do.	8.	Fyzabad do.
4.	Allahabad do.	9.	Naini Tal district.
5.	Cawnpore do.	10.	Garhwal do.

The provisions of the Lepers Act, (III of 1898) were extended to the Shahjahanpur district and the civil surgeon was appointed to be an inspector of lepers.

An agreement having been come to between the Inspector-General of Civil Hospitals and the Director of Public Health that all treatment of leprosy should in future be conducted under the Medical department, sanction of Government to the transfer of the control of the leper asylums from the Public Health to the Medical department was applied for.

Fairs.

19. The medical and sanitary arrangements of all the fairs and religious gatherings held in the United Provinces during 1929, were, as usual, controlled by the personnel of the Public Health department; those of the bigger fairs by the range assistant directors of public health, while those of smaller ones by the district public health staffs. All the anti-epidemic and sanitary measures which have proved by experience to be effective were put into force and there were no serious outbreaks of infectious disease at any of these fairs. The dispersal of the fairs held in the spring was as usual, however, undoubtedly the cause of extensive outbreaks of cholera all over the province.

The activities of the Hygiene Publicity Bureau during the melas attracted large crowds of people, the object of this bureau during fairs being to give wide publicity to hygiene work. The bureau opened public health exhibitions at all big fairs in which were displayed various models and posters giving the causes, main symptoms, and directions for the prevention of various epidemic diseases. There were also exhibited a variety of nutritious food articles and diets for various classes of people. Another important activity of this branch during fairs has been the demonstration of instructive cinema films which provided both recreation to thousands of people in the evening and also education in health matters. Most of the films demonstrated were on health subjects but in order to avoid monotony, other interesting films were also shown. During the Magh Mela Kumbh held at Allahabad in January and February, 1930, the premises of the

Hygiene Publicity Bureau were also fitted with loud speakers and the magic lantern demonstrations were arranged at a number of places.

From the point of view of cleanlines and absence of flies during the Kumbh mela the sanitary arrangements were very satisfactory. The sanitary and medical arrangements made for this fair will be detailed in the annual report for 1930. A detailed report has already been submitted to Government separately.

The medical inspection of passengers was, as usual, carried out at the border railway stations (Moghal Serai, Ballia, Captainganj or Gorakhpur, Bhatni and Saharanpur) between December 15, 1928, and May 15, 1929 for varying periods.

The Magh mela at Allahabad lasted longer during 1929 than the previous year, i.e., from January 14 to February 23, or for 41 days as compared with 30 days in 1928. The attendance at the fair was smaller in 1929, than that of the preceding year, probably due to economic causes, resulting from the agricultural distress, prevailing in the surrounding districts. The sanitary and medical arrangements were supervised by the Assistant Director of Public Health, III range, and inspected by the Director of Public Health.

In order to prevent the importation of infectious cases, a system of inspection of the pilgrims at all important railway stations was carried out. This precautionary measure coupled with a vigilant watch for illness within the mela area proved most successful in keeping the fair area free from epidemic disease. A new scheme was inaugurated during the year under review under which qualified medical inspectors were on the disposal of the fair temporarily employed to travel in the outgoing passenger trains and pilgrim specials. They examined passengers detraining at railway stations and had orders to make over any suspicious cases found, to the medical officers appointed at all the junction stations and a few important stations. A separate report on the details and results of the working of this scheme has been submitted to Government.

Plague, and to a certain extent small-pox, were present in Allahabad and the surrounding districts, but the careful and vigilant inspection of the incoming pilgrims attending the mela by rail prevented any infectious disease being imported into the fair.

The arrangements made by the railway authorities at the different railway stations were satisfactory.

The dispensaries of the Sewa Samitis established in the fair rendered medical aid to the sick and did useful work. The delegates of the All-India Christian Medical Association visited the Magh Mela.

Arrangements for the inspection of returning pilgrims from the Mahabarni and Dikhauti fairs held at Hardwar in April, 1929, which lasted for about a fortnight, were also made at Rikhikesh, Lahksar, Saharanpur and Moradabad besides Hardwar. The Assistant Director of Public Health, I range, twice visited Rikhikesh—once before the fair on March 13 and later on during the fair and got all the wells on the pilgrim route between Hardwar and Rikhikesh disinfected thrice and supervised by the public health staff. With a view to an effective detection of illness, 50 per cent. of lodging house reports of deaths amongst the pilgrims were checked by the medical officer of health himself in addition to other staff. The Director of Public Health also visited the fair area. No serious epidemic of any infectious disease occurred during the fair but sporadic cases of

cholera, small-pox and plague were reported. Altogether four cases of cholera, three of which recovered and one died, were reported among the pilgrims from Lucknow, Amritsar and Delhi, the infection having been brought by a pilgrim from the Tehri State. Two cases of small-pox were imported from Bijnor and Dehra Dun during this fair. During the Somwati Amawas fair held at Hardwar on August 5, 1929, arrangements were made for the inspection of incoming and outgoing passengers at Hardwar, Lahksar and Saharanpur stations. The East Indian and North-Western Railways fully co-operated with the departmental staff and made other satisfactory arrangements. Only one case of cholera was intercepted at Saharanpur. The patient was isolated and treated in the segregation huts. There also occurred four sporadic cases of cholera at Hardwar during this fair, two of which recovered and two died, but the prompt measures taken by the Public Health department checked the spread of the disease. The infection to Hardwar was brought from Rikhikesh where were imported three cases by the returning pilgrims from Badri Nath and Tehri State. In addition to the above three fairs held at Hardwar, the Assistant Director of Public Health, I range, organized and supervised the medical and sanitary arrangements of the Makar Sankarant, Dasehra bathing and the solar eclipse fairs held at Hardwar and of the Piran Kaliar (Roorkee), Shahkumber Devi (Saharanpur), Garhmuktesar (Meerut), Tigri (Moradabad) and the Batesar (Agra) fairs and inspected the sanitary arrangements of the Muzaffarnagar and Saharanpur exhibitions.

The Ram Naumi, Sawan Jhula and Kartiki fairs at Ajodhya were visited and supervised by the Assistant Director of Public Health, II Range, and the usual inspection arrangements which were made at Ajodhya, Gogra bridge, and at Lakarmandighat operated successfully. The first two fairs passed off almost uneventfully but a severe outbreak of cholera occurred at the Kartiki fair as many as 63 cases being admitted to the infectious diseases hospital, Fyzabad, of whom 18 died. The largest number of these cases (31) came from the Basti district and a few from Gorakhpur, while 16 cases came from Fyzabad district and city. These cases were of all ages and were received mostly in a critical condition. The medical inspection of returning pilgrims in running trains by travelling medical officers appointed for the purpose was instituted this year during the Ram Naumi fair at Ajodhya for a week between Lakarmandi and Gonda and between Mankapur and Gonda. Each travelling medical inspector was provided with a haversack, containing emergent medicines, disinfectants and a small outfit with vaccine and appliances and medicines for rendering first aid to the injured with a coolie to carry all these. The travelling medical inspectors were given necessary instructions with regard to inspection of passengers and removal of persons found suffering from an infectious disease to isolation camps at the side tracking stations—Mankapur and Gonda—the detachment and disinfection of railway carriages and the administration of immediate treatment. The arrangements worked well and four cases of small-pox and two of cholera were detected and handed over to the special hospitals. In addition, inspecting medical inspectors were posted at the Fyzabad and Ajodhya railway stations, at Gogra boat bridge, at Lakarmandighat and at the infectious diseases hospital at Fyzabad for road traffic only. All passengers were inspected on arrival of trains at the Lakarmandighat railway station as well as on the steamers during the Sawan Jhula fair at Lakarmandi and two cases of cholera imported from Ajodhya were detected, isolated and treated.

The medical inspection of pilgrims attending the Benares Solar Eclipse festival was carried out at Kashi, Benares city, Cantonment and the Aunrihar (district Ghazipur) railway stations from May 3 to 12. The inspection of pilgrims travelling by road was also done at the principal roads leading to Benares via Jaunpur, Ghazipur and Grand Trunk Roads.

During the Dadri fair at Ballia, the medical officer on duty at the Ballia railway station detected two cases of suspected cholera. One was treated successfully, while the other, who had come from Bihar, was found in a collapsed condition on the platform. He was given the First Aid and then sent to the Sadr hospital where he died.

Inspection of schools and the medical examination of scholars.

20. In October, 1929, an important change was made in the system of medical inspection of scholars. With the mutual concurrence of the Public Health and Education departments it was decided that the medical inspection of scholars in the Government and aided English schools situated in cities and towns in which it could be arranged should be done under the auspices of the Director of Public Health by district medical officers of health and municipal medical officers of health nominated by him. Previous to this, scholars in these towns were inspected by members of the Provincial and Subordinate Medical Services on payment of allowances of Rs 10 and Rs. 5 per mensem, respectively. The new arrangement was given effect to from October 1, 1929, from which date payment of medical allowances ceased to school medical officers other than school medical officers who continued in charge of boys residing in the hostels of such of these schools as had hostels attached to them. There are consequently two doctors for the latter; one the school *medical* officer who treats and prescribes for the boarders and who continues to draw a medical allowance as heretofore and the other the school *health* officer who looks after the general health of all the boys and carries out medical inspections. The scheme is at present in operation in the English schools (High and Middle) and Intermediate Colleges for boys in 44 towns. Once a year scholars are examined *in detail* for various defects and once every month on parades when the condition of their eyes, teeth, cleanliness, etc., is noted.

In addition to the above, municipal medical officers of health also examine the boys in the vernacular schools (primary and middle). In view of the very large number of boys involved it has not been possible to extend the same detailed scheme of inspection for these boys as in the English schools. For the boys in the vernacular schools, one detailed examination once a year has therefore been enjoined, and no monthly inspection on parades. An amended medical history sheet has been prescribed for these boys.

The resume of the work given below relates to the period from January 1, 1929 to April 30, 1930. In spite of the detailed instructions issued, reports submitted in certain cases are incomplete and wanting in requisite information while they have not been received from a few officers at the time of writing, in spite of reminders. Necessary action will be taken to rectify matters. Medical officers of health have been instructed to submit copies of their reports to the chairman of the district or municipal board concerned, the deputy inspectors of schools, the divisional inspectors of schools, the district magistrates and the assistant director of public health

of the range to admit of necessary action being taken on the suggestions made by them.

During the period under report medical officers of health in municipalities visited 476 schools and examined 54,084 scholars, both in the English and vernacular institutions.

The prevailing defects vary from town to town and the subjoined table gives an average for the 38 towns for which reports have been received up to the time of writing:—

—		Number of children who have defects.	Percentage of such children to total children examined.
1. Nutrition ..	Good	8,376	15·49
	Fair	13,569	25·07
	Poor	8,358	15·45
2. Defect in teeth		5,248	9·07
3. Enlargement of tonsils and adenoids		2,441	4·51
4. Defect in hearing		388	·72
5. Defect in eyes..	Diseases of lids	3,772	6·97
	Vision	1,864	3·45
6. Defect in speech		102	·19
7. Tuberculosis ..	Pulmonary	10	·02
	All other forms	1,036	1·91
8. Lung diseases other than tuberculosis ..		348	·64
9. Heart diseases		85	·16
10. Alimentary diseases (other than tuberculosis of abdomen).		392	·72
11. Anaemia ..	Evidence of parasites or other disease.	397	·73
	Enlargement of spleen.	510	·94
12. Deformities ..	Congenital	83	·15
	Acquired	87	·16
13. Skin diseases		1,122	2·07
14. Infectious diseases		463	·86
15. Unprotected against small-pox		4,171	7·71
16. Protected by vaccination or re-vaccination .		32,163	59·47

District medical officers of health visited 2,557 schools and examined 135,514 scholars between January 1, 1929 to April 30, 1930, in the notified

areas, town areas and rural areas of their districts. The subjoined table gives the average for the 28 districts in which the work was done :—

—		Number of children who have defects.	Percentage of such children to total children examined.
1. Nutrition	Good	28,224	29·77
	Fair	39,215	41·36
	Poor	19,859	20·95
2. Defect in teeth		6,695	7·06
3. Enlargement of tonsils and adenoids		1,400	1·47
4. Defect in hearing		1,541	1·62
5. Defect in eyes	Diseases of the lids	5,123	5·40
	Vision	415	·44
6. Defect in speech		71	·07
7. Tuberculosis	Pulmonary ..	11	·01
	All other forms ..	87	·09
8. Lung diseases other than tuberculosis ..		1,812	1·91
9. Heart diseases		123	·13
10. Alimentary diseases (other than tuberculosis of abdomen).		1,581	1·67
11. Anæmia	Evidence of parasites or other disease.	1,107	1·17
	Enlargement of spleen.	3,607	3·80
12. Deformities	Congenital ..	41	·04
	Acquired ..	244	·26
13. Skin diseases		3,732	3·94
14. Infectious diseases		1,307	1·38
15. Unprotected against smallpox		10,792	11·38
16. Protected by vaccination or re-vaccination ..		76,564	80·86

The treatment of defects is a necessary sequel to these medical examinations. It is, however, regrettable to find that although facilities for treatment exist in towns, yet, even in cases where the scholars were provided with vouchers containing full directions, a fair proportion did not have themselves treated. In the rural areas medical officers provide necessary medicines at the time of their visit. The correction of defects and deformities which require some expenditure or labour is not usually attended to by the scholars or their parents, while recommendations not involving expenditure are apt to be readily carried out.

From enquiries made from the Civil Surgeons it appears that in municipal areas 25,493 school students attended the various hospitals and dispensaries for medical treatment, but only 1,149 of these actually attended on the advice of the Public Health staff. In rural areas 100,390 school students attended the dispensaries, of which only 980 attended on the advice of the Public Health staff. This meagre attendance at hospitals for treatment strongly points to the need for the establishment of school clinics for the treatment of the scholars in their own schools. The scheme of supplying medicines to village school teachers in the Sitapur district which is being worked with this object was continued during the year and is very popular. The Education department who conducted an inquiry into its working expressed their appreciation of the useful work being done and recommended its extension. It has not, however, been possible to extend it to any other district for want of funds.

Hygiene is now taught for one period per week in certain classes of the English schools in towns and in nearly all the village schools. The teachers are reported to be taking interest in the teaching of the subject. Some of the medical officers of health gave lectures and lantern demonstrations on health subjects in the schools and colleges in their towns. Proposals submitted to the Education department for the inclusion of this subject on a compulsory basis in the school curriculum with examinations as in the case of other compulsory subjects, are under consideration.

Medical officers of health inspected the sanitation of the school premises, hostels, and water-supply, adequacy of lighting, ventilation, and cubic space in class rooms and also the school furniture and their suitability to individual needs, and advised corrections. In some cases schools were closed on their advice owing to the prevalence of infectious diseases.

Medical officers acknowledge the co-operation of the school authorities in their work.

The ten whole-time school medical officers on the cadre of the Education department visited 101 schools and examined 25,980 scholars during the year under report

Adult Education Co-operative Societies.

21. During 1929 district medical officers of health gave lectures on public health subjects in the night schools for adults in those districts where the scheme of establishment of adult education co-operative societies had been extented by the Education department. Following are the details of the work done in this connection :—

Name of school.	Number of ordinary lectures given.	Number of magic lantern demonstrations given.
1.—*Lucknow district.*		
1. Bahargaon	2	..
2. Chandpur	1	..
3. Amausi	4	..
4. Dhanwara	5	..
5. Marui	..	2
2.—*Partabgarh district.*		
1. Katra (Khajuri)	6	4
2. Bishwanathganj (Pure Ajmer Shah)	8	6
3 Newari	3	..
4. Mandhata	2	..
5. Swansa	2	..
6. Sangramgarh	2	..

Posters and leaflets were supplied to all the schools. Some of the students were trained in first aid in sanitation and common accidents.

In Benares district the district and assistant medical officers of health visited seven out of the 13 schools and delivered lectures and examined village aiders. The teachers of all the 13 schools were trained in first aid sanitation and common accidents. The work was found fairly good and encouraging. Special songs have been prepared embodying the principles of hygiene and these are appreciated by the villagers. In some of these villages instructions imparted at these night schools have been useful in

that village sanitation has been improved and the people appreciate the necessity of keeping their manure heaps outside the abadi and observe cleanliness to a great extent.

In Gonda district one magic lantern demonstration and two lectures were given in the adult night school. The assistant hygiene publicity officers delivered two magic lantern lectures at the adult schools in Farrukhabad and Mainpuri districts where there are no district medical officers of health.

Public Health Essays.

22. As promised, vide paragraph 21 of section X of the annual report for 1928, Rai Shambhu Dayal Sahib of Ghaziabad deposited a sum of Rs. 1,000 in a Government promissory note, conveying interest at 5 per cent per annum and undertook to pay a further sum of Rs. 10 annually to make the annual award of a gold medal of value of Rs. 60, a permanent scheme.

A gold medal was awarded to Rai Sahib Dr. Jhamman Lal, medical officer in charge of Secrole dispensary (Benares) for the best essay entitled "How can the public best co-operate with the Public Health department in the prevention of cholera in rural areas."

The next subject notified for the essay is "A scheme for bringing about a reduction in infantile mortality in rural areas."

Soakage pits in Government buildings.

23. For sometime past the question of the disposal of sullage water in areas with no regular drainage has been engaging the attention of this department. The system of soakage pits, which is the cheapest and most effective means of disposing of the sullage water from small houses, is being introduced in villages specially in districts staffed with the district health personnel. During the year under report Government at the suggestion of this department, drew the attention of all heads of departments, commissioners of divisions, district officers and district and sessions judges to the desirability of providing these pits in Government quarters in all cases where more elaborate arrangements for removing the sullage water cannot be made. A plan with a set of instructions for the construction of these pits was also circulated to all officers.

Budget grants for the department.

24. The condition of the provincial finances continued to be unsatisfactory and the further expansion of the activities of the department had to be held up for want of funds.

The budget allotment for the year 1928-29 under the heads administered by the Director of Public Health was Rs. 13,00,675 and that for 1929-30, Rs. 14,24,107. The expenditure of the department against these grants amounted to Rs. 13,02,441 and Rs. 13,94,947, respectively. For the year 1930-31 the *new demands* of the department aggregated Rs. 5,99,902 recurring and Rs. 1,43,535 non-recurring. Majority of these demands had been approved by Government as the most essential requirements of the department but money could not be allotted for this essential expenditure on account of paucity of funds. However, as expenditure on several urgent schemes was already incurred during the year 1929-30 under the temporary sanction of Government, a sum of Rs. 50,906 was allotted by Government for the continuance of that

expenditure as a permanent measure. In addition a sum of Rs. 13,59,411 has been allotted for ordinary expenditure.

The new items of expenditure for which funds could not be allotted will be repeated in the schedule of new demands for 1931-32 and it is hoped that they would be given priority in view of the fact that they have long been overdue.

The receipts of the department for the years 1928-29 and 1929-30 amounted to Rs. 1,01,033 and Rs. 1,22,827, respectively. During 1930-31 they are estimated at Rs. 72,044. The decrease is mainly due to the fact that the procedure of realizing the district boards' share of the cost of the district health service as receipts of the department has been discontinued and the expenditure of the service is now budgetted after reducing the contributions of the district boards. No receipts are, therefore, provided in the budget on this account.

Visit of officers to the United Provinces.

25. Members of the Malaria Commission of the League of Nations visited these provinces and an account of their visit is given in paragraph 4 of this section.

Famine.

26. Resolution no. 96, dated October 18, 1929, issued by Government in the Scarcity department fully deals with the subject. As a result of the failure of monsoon and late winter rains in 1928 which affected agricultural conditions in parts of the province, test works were opened early in 1929 in parts of the Gonda and Bahraich districts. Later on famine operations were found necessary in certain tracts of the two districts. These districts having been staffed with the district public health personnel, sanitary arrangements of the relief works were organized and supervised by it.

The health of the labourers on the works was very satisfactory. Cholera was rife in the Gonda district, but it is very gratifying to note that excepting a few suspected cases in the famine charges, the famine relief works terminated without a single death from any epidemic disease. Indeed the Deputy Commissioner remarked, " Doubtless many lives were saved in the famine camps which would have been sacrificed to cholera if people had been living in their villages". 8,276 anti-cholera inoculations were performed amongst the labourers. In Gonda the total death-rate from all causes was lower during the famine period than the average of the last ten years. In Bahraich it was somewhat higher than that in the immediately preceding years and may be attributed to specific epidemic, such as, influenza, cholera and malaria.

Test works were also opened in the Muttra district with a view to find out whether there was any acute distress in the district and also whether the works were likely to attract workers in considerable number, but the district did not pass the stage of observation and test. Necessary sanitary arrangements at the test works were, however, organized and supervised by the district public health staff.

The success of these famine camps shows the value of direct supervision and discipline of people and their habits in preventing epidemics and emphasises the reasons why the best efforts of the Public Health department to check rural cholera fail in villages simply because the

department has not sufficient staff to exercise disciplined sanitation in infected villages and enforce sanitary habits on the villagers.

At the time the Famine Code was drawn up, there were no district medical officers of health for the administration of public health in the rural areas. The rules in the Code, therefore, referred to "district medical officers" which meant "civil surgeons." With the appointment of district medical officers of health all duties relating to public health and anti-epidemic measures in the districts were entrusted to these officers. Necessary alterations in the Code were, therefore, submitted to Government who approved of the same and ordered corrections to be made in the Code accordingly.

Principal meteorological and weather conditions.

27. Appended is the note on the principal meteorological and weather conditions in these provinces for the year 1929, kindly furnished by the Director-General of Observatories :—

The cold weather period—January and February.—Rainfall in January was in excess, particularly in the eastern half of the province where the total amount registered was 1·71″ as against a normal of 0·63″. February had a large deficit in contrast with the previous month. Towards the close of February a cold wave of unusual severity advanced eastwards through the frontier and extended into this province. Agra registered a minimum temperature of 33·5°/—one of the lowest temperatures recorded at that station. The cold spell continued during the first three days of the next month also when both day and night temperatures were markedly below normal.

Skies were more clouded than usual in January. Humidity was in defect and minimum temperature was below normal in February.

The hot weather period—March to May.—March was an abnormally dry month throughout the country as a whole and rainfall was in large defect in the west United Provinces. Associated with a western disturbance thunder showers and hail fell along and near the Kumaun hills on the 9th followed by widespread dust storms over the province on the next day. Although six western disturbances affected the province in April, they did not produce any appreciable precipitation. The hills received widespread thunder showers between the 9th and 13th while scattered dust storms occurred in the province on the 14th. The total rainfall for the month was less than half of the normal amount in the eastern half of the division, while in the western half it was in defect by 17 per cent. May was the driest month of this period, the total rainfall being less than a quarter of the normal amount. A severe local storm is reported to have caused considerable damage to buildings and trees in Meerut on the 18th.

Skies were less clouded than usual in March and May and more in April. Maximum temperature was above normal in March, the minimum in April, and both maximum and minimum in May. Humidity was in defect in May.

The monsoon period—June to September.—During the first three months of this period the monsoon was fairly active in the eastern half of the division while its activity in the other half was less marked than usual. The monsoon extended into the province on the 4th June and caused under the influence of a depression from the Bay of Bengal, some noteworthy heavy falls in the last week of the month. Bahraich had 11″ on

the 22nd and 10″ on the 23rd and Cawnpore 5″ on the 22nd. In July also there were heavy falls owing to a strengthening of the monsoon under the influence of two depressions which travelled up from the Bay, the important falls being 6″ at Chhatarpur on the 18th, at Allahabad on the 25th, and at Baberu and Mau on the 28th. August began with a vigorous monsoon in the first week which continued more or less active during the rest of the month. Some locally heavy amounts registered during this month were 6″ at Rampur city on the 1st, 6″ at Partabgarh and 7″ at Puranpur on the 6th and 6″ at Bilaspur on the 8th. For the greater part of September the monsoon was feeble in the province and rainfall was consequently only about a quarter of the normal amount. The percentage departures from normal during the period in the two sub-divisions are as follows :—

Sub-division.	June.	July.	August.	September.	Total of the period
United Provinces East	+20	+1	+25	—76	—4
Ditto West	—20	—27	—4	—72	—27

Skies were clouded to the usual extent in the first three months and less clouded than usual in the last month of the period. Humidity was in defect and maximum temperature was above normal in September.

The retreating monsoon period—October to December.—During the first ten days in October the monsoon occasionally extended into the east United Provinces through north-east India, while the western half of the province received good showers on the first three days. The remaining part of this month and the whole of November were practically rainless, and even the normally poor rains failed altogether. Western disturbances were active in December and gave rise to an excess of rainfall.

Skies were more clouded than usual throughout the period. Humidity was in defect in November. Maximum temperature was above normal in November and below it in December.

Public Health Acts.

28. The following Acts affecting public health were passed by the Legislative Council in 1929 :—

(1) The United Provinces Town Areas (Amendment) Act, 1929 (III of 1929).

(2) The United Provinces Village Sanitation (Amendment) Act, 1929 (V of 1929).

Corruption in the public service.

29. During the year under report no case of corruption in this department was brought to notice.

Office.

30. Lieutenant-Colonel C. L. Dunn, C.I.E., D.P.H., I.M.S., Director of Public Health United Provinces (on leave) has left the following note :—

There has been no change in my office during the year and the increased scale of pay for the head office has again been held over on account of financial stringency. Khan Sahib Hafiz Mohiuddin has carried out his work as my head assistant with energy and zeal and maintained a high standard of efficiency and discipline. My head clerk M. Abdul Hakim and second clerk Babu Brij Lal have given satisfaction. I wish to specially mention the good work done by my camp clerk Babu Maharaj

Bahadur Srivastava, M. Raihanul Haque, the head of the finance section and Mr. A. C. Banerji. The work of the latter in connexion with the preparation of the Public Health Manual and the Vaccination Act and Food and Drugs Act Amendment Bill has been invaluable.

W. A. MEARNS, M.B., D.P.H.,
LIEUT.-COLONEL., I.M.S.,
Offg. Director of Public Health,
United Provinces.

NAJNI TAL:
Dated June , 1930.

Thirty-fifth Annual Report of the Superintending Engineer, Public Health department, United Provinces, for the year ended March 31, 1930.

A GENERAL summary of the work undertaken by this department during the year under review is as follows:—

Nature of work.	Amount involved in lakhs of rupees.	Remarks.
1. Duties under the Local Authorities Loans Act, 1914, and the Municipalities Act, 1916, i.e., the supervision and inspection of all open water-works and drainage pumping stations.	46·67	This amount represents the turnover in revenue and expenditure on water-supply alone.
2. Local Works:—		
(*a*) Preparation of projects ..	68·10	Includes 39 detailed proposals and 4 preliminary estimates.
(*b*) Construction	12·76	Payments made.
(*c*) Maintenance	14·37	Actual cost.
3. Provincial Works:—		
(*a*) Preparation of projects ..	2·88	21 detailed projects.
(*b*) Construction	1·87	Payments made.
(*c*) Maintenance	·05	Lucknow Anti-malarial and Allahabad Magh Mela water-supply.
4. Advice free to local authorities ..	18·62	25 forecasts of costs and reports were supplied free.
5. Board of Public Health business—		
(*a*) Examination of projects for urban works.	3·01	24 projects were examined.
(*b*) Examination of projects for rural sanitation.	4·84	1,026 projects were scrutinized.
(*c*) Checking progress on urban and rural areas.	4·48	Progress reports of divisions were collected and consolidated statements submitted to the Board of Public Health.
6. Inspection and reports on works carried out by local authorities themselves.	3·18	16 works estimated to cost about Rs. 38·15 lakhs were undertaken by the local authorities themselves.

Thus the total of projects including preliminary proposals and forecasts of cost which have been prepared during the year amounts to Rs. 89·60 lakhs, while the construction work carried out amounts in value to Rs. 14·68 lakhs.

Of the above six items fees are recoverable only on item 2 and during the year an amount of Rs. 13,083 was earned as fees on projects completed against an amount of Rs. 6,867 realized. Including the arrears

of the previous year a sum of Rs. 29,477 was realized as fees for the preparation of projects. Earnings for construction carried out by this department amounted to Rs. 1,31,544. Thus for local works a sum of Rs. 1,61,021 was realized.

Orders of Government regarding fees to be levied on provincial works are still awaited. If fees were leviable on these works as on local works, a sum of Rs. 39,867 would have been credited in addition to the earnings of Rs. 1,61,021 above mentioned.

In the last year's report it was mentioned that the work of this department tended to increase. This is also true of the year under review, and a list of the works held pending for want of staff is attached, vide Appendix XIII-D.

An officer of the Provincial Public Health Engineering Service has been deputed for a year's training in England. No recruitment has been made since 1920 to the specialist cadre, which has recently been further depleted by the permanent transfer of Mr. S. E. Platt to the Government of Bihar and Orissa.

A change from the usual practice in this report has been made in that all the activities of each local authority are reviewed under the same reference, whatever their nature, that is water-supply, drainage or other enterprize.

The success of health works in general and the manner in which the local authorities operate them has often been referred to in previous annual reports, and there is no reason for altering the opinions expressed; the facts reviewed in this year's report bear out the opinions referred to.

Too much secrecy is observed by many local authorities in their transaction of public business.

Special orders are being discussed with a view to prescribing the correct procedure to be followed by local authorities in letting contracts. This has been found necessary, as a tendency has been noticed to permit negotiations after the seals of tenders have been broken and the details of the bids made public.

Several cases have occurred illustrating the inadvisability of letting contracts to the lowest tenderer, and since competition for work is very keen there is a danger of inexperienced contractors quoting lower rates than it is possible to carry out the specified work and endeavouring to evade their responsibilities; on this account it may be necessary in future to take steps to guard against this by permitting only skilled and experienced contractors to tender for important contracts.

Owing to inexperience several accidents have taken place some of which have proved fatal to workmen.

The estimates for drainage works prepared are often criticised on the grounds of the high cost involved, and when the matter was investigated it was found that about 60 per cent. of the total cost of drainage work is involved in road work such as metalling, pitching, puttries and resurfacing work. Drainage work proper included in projects prepared by this department is only a fraction of the total amount involved. From this fact the normal state of the road surfaces in the various towns may be gauged.

Agra water-supply maintenance.—In spite of the warnings which have extended over a number of years regarding the necessity for purchasing spare parts for the pumping plant no progress in this respect can be recorded this year and the condition of the plant is the worst so far recorded. The financial position cannot be cited as an excuse, for a profit totalling Rs. 2,57,014 was made on water-supply during the years 1925-26 to 1929-30. Not only have the Board falsely economised in the matter of spare parts, but also in the failure to provide funds for cleaning the settling tanks and in general maintenance.

The census of connexions was completed three years ago and there are 1,032 service connexions of ½″ in diameter and upwards, but of these only 200 are metered. During the last two years the Board have purchased only sixteen new meters. It is obvious the Board is losing much revenue when the metered supplies derive 6·42 annas per thousand gallons compared with 1·52 annas only by assessment rating.

Agra water-supply improvements (Rs. 2·76 lakhs).—This work carried out by the Executive Engineer, 1st division, Public Health department, Meerut, to meet the increased demand for water, includes a Paterson rapid filtration plant of one million gallons capacity daily. The work was completed on March 19, 1930, but it cannot be set to work as the Board has not obtained way-leaves for the waste-water drain, though this matter has many times throughout the past year been urged upon the Board.

The extension to the unfiltered water pumping plant for which the Executive Engineer, 1st division, Public Health department, Meerut, is also responsible, was completed by the contractors Messrs. Mather and Platt, Limited, in November, 1929, but since the Board have not completed the agreement, which was negotiated for them and delayed many months to come to terms with the Electric Supply Company, this plant also is not available for service.

These delays are all the more remarkable as many complaints exist regarding shortage.

Of the twenty-two waste detecting meters fitted in the distribution system eighteen have been permitted to fall into disuse during the last five years.

The statements that efforts have been made to realize arrears of collections do not bear examination for the arrears have risen during the last year from Rs. 42,851 to Rs. 98,774.

Agra drainage.—The Board of Public Health sanctioned a comprehensive scheme which was prepared by the Executive Engineer, 1st division, Public Health department, Meerut, amounting to Rs. 49 lakhs, and the first instalment of this scheme amounting to about Rs 8 lakhs has been included in the programme of demands for the coming year. The railway authorities having refused to permit the use of their bridge for the sewage rising main, it will be necessary to lay this main under the bed of the Jumna. The drainage of Agra is probably the most urgent public improvement, if pilgrim centres are excepted, in the province.

The present state of the river in the vicinity of the Fort and MacDonald Park and even as far down stream as the Taj Mahal is offensive. The first instalment of the drainage work at Agra would add in a great degree to the attraction of the town as a tourist centre.

Dayal Bagh (Agra) water-supply tube-well (Rs. 0·13 lakh).—This was started departmentally in January, 1929, but presented many difficulties during construction. About 20 feet of water-bearing strata was found between depths 221 and 241 feet, but the water obtained was brackish and hard, so the boring was carried down to 350 feet below ground level. The water of the lower strata was, however, found to be even more brackish. Recourse therefore was had to an upper strata between depths 162 and 173 feet which yielded sweet water. It has been found that the rate of pumping must be restricted to 100 gallons per minute with a depression head of about 20 feet to obviate the danger of drawing brackish water.

Ajodhya water-supply improvements (Rs. 4·27 lakhs).—For this important pilgrim centre a detailed project for water-supply has been sanctioned and a successful tube-well of the new type constructed. Funds are awaited for further work.

Ajodhya drainage improvements (Rs. 4·60 lakhs).—A sanctioned project for this is also ready; but no funds have so far been provided.

Aligarh water-supply improvements (Rs. 7·49 lakhs).—The tube-wells at Aligarh were completed as long ago as 1925, but the municipal board did not proceed with the water-supply construction, even though the project was sanctioned.

The project was revised in 1920, but the Board again took no steps to move in the matter and the estimate had to be revised a second time in 1928.

As a preliminary to drawing out specifications for pumping plant, recommendations were made to the Board to provide funds for testing the wells, but the Board demurred and some time elapsed before money was forthcoming for this essential preliminary.

Tenders were called for and a contract for the pipe-laying and building work was let to the lowest tenderer, but the Board did not see its way to approve of the Superintending Engineer's recommendations regarding the contract for the pumping plant and entered into negotiations with several tendering firms direct, after the seals had been broken and the details of the tenders made public. Some delay took place before the contract could finally be placed on this account.

The Executive Engineer, I division, is responsible for this work, and the pipe-laying, pumping station and workshop buildings have been completed.

The work on the balancing tank has been delayed as it was discovered that special foundation work will be necessary owing to the nature of the soil at the site. The pumping machinery will, it is expected, be delivered shortly.

Owing to building operations and transfers of properties since the work was first designed, some derangement has been caused in the flow of surface water from the water-works site and flooding has been reported. To remedy this state of affairs a special storm water drain will have to be constructed, and the Executive Engineer has sent the necessary project for this work amounting to Rs. 0·7 lakh to the Board for necessary action.

Aligarh Muslim University drainage (Rs. 0·96 lakhs).—A forecast of cost was supplied to the University authorities who have now decided to carry out the work themselves.

Allahabad water-supply maintenance.—At Karelabagh (riverside pumping station) only slight movement has taken place in the suction gallery and pipe culverts. The steam pumping plant was shut down in December, 1929 and will in the future be maintained as a stand-by plant.

This municipality has pressed Government for permission to proceed with the re-organization of their distribution system, but the Superintending Engineer did not find it possible to recommend this work, because the symptoms showed that extensive areas existed which were not subjected to proper control and drew off far more than their proper share of water, thus starving other less favourably situated areas. The Superintending Engineer pointed out that the mere transposition of connexions and substitution of one main for another would not cure this grave defect, and that the proper remedy was metering and stricter control. The Board of Public Health has provided a grant of Rs. 12,000 for two tube-wells in suitable positions to serve areas in distress, and it is hoped that the Board will take advantage of the respite to be afforded by these wells in steadily regaining control of their distribution.

The municipality have diverted a sum of Rs. 34,000 from funds sanctioned by Government for the re-organization work for the purpose of laying a rider main through Kydganj with the object of controlling numerous connexions in that area and providing a larger capacity supply main to the Daraganj area. This work was rushed through at the end of the year, but so far no reports have been received as regards the improvement derived.

Re-organization scheme.—At Karelabagh the two new intake wells have been completed and in the first well two sets of Mather and Platt vertical spindle electro-motor-driven centrifugal pumps have been installed. A third set which was temporarily installed in the old intake well has been dismantled and re-erected in the second new well as a permanent plant. These new sets now pump all the unfiltered water required to maintain the supply.

At Khusrubagh (filtered pumping station) the new horizontal electro-motor-driven centrifugal pumping sets have remained in good working order.

The Paterson rapid filtration plant has been well maintained and has given satisfactory results. The elevated tank of 500,000 gallons capacity was brought into service last year.

Despite these improvements serious complaints are still received of the inadequate supply in some of the outlying districts. Two of the slow sand filter beds still require to be entirely reconditioned. It was only during the present year that repairs work on the two clear water reservoirs was put in hand, although this has been the subject of reports for the last five years. No intimation has so far been received as to whether this work has been successful.

The Mayo Hall tube-well electro-motor-driven centrifugal pumps worked satisfactorily throughout the year and gave a useful additional supply at increased pressure to one of the districts.

In spite of the electrification of both the water-works pumping stations no advantage has been taken of the possibility of reducing expenditure on staff and reports which have been received seem to show that as much

if not more staff and labour are being employed as was required by the old steam pumping station. Advantage of the electrification was also not taken to reduce expenditure by installing a motor in the workshops instead of using the old and inefficient steam plant.

Allahabad drainage.—The Katra-Colonelganj drainage extensions, concerning which adverse reports were received, has been completed, but there is nothing on record to show whether this work is functioning successfully or not.

Allahabad drainage pumping station.—Reports show that the Board are taking a more active interest in the upkeep of this station and spare parts which were recommended for purchase are being obtained, but adverse comments have been received concerning the method adopted for disposing of the screenings and sludge. The conditions under which the staff have to labour and the condition of the adjacent bazar would be markedly improved if the method of dealing with the screenintg was improved. The overflow drain which has recently been compleesd to discharge the overflow from the sewage pumping station below the Jumna bridge has justified the expenditure incurred on it.

Allahabad sewage farm.—As regards the sewage farm, there is scope for improvements as the bulk of the sewage still remains unutilized, and though the Board are successful in deriving good revenue from their farm, yet by extending the sewage carriers and bringing more land under treatment an appreciable increase is still possible.

Allahabad Kumbh Mela.—The work of providing a water-supply way undertaken by the Executive Engineer, II division, Public Health department, Allahabad. A new tube-well was constructed and temporary air-lift pumping plant installed to run in conjunction with the existing well to meet the extraordinary demands of this year's mela. A satisfactory supply was maintained from both these wells and the work was in extent equal to the water-supply of a large town.

A new scheme of hiring materials for the pipe line was introduced and a saving thereby arrived at in the cost. The whole scheme was maintained throughout the mela period by the firm of Messrs. Noorullah Ghazanfarullah, Contractors, Allahabad, who are deserving of great credit for the expeditious manner in which the work was carried out and to the fact that no hitch occurred during the whole period of the mela. The cost was in the region of Rs. 52,000 and the supply on the main days of the mela amounted to three-quarter million gallons daily.

In addition to the water-supply electric lighting throughout was also arranged for by the Executive Engineer. Messrs. The United Provinces Electric Supply Company and Messrs. P. L. Jaitly & Co. were responsible for this work and authority to proceed with the scheme was only given by Government on October 27, 1929, and some risk was run in getting this supply ready in time for the mela and there was literally not one day to spare.

Three miles of high tension transmission line was erected and over eight miles of low tension distribution. The area was lighted by 230 street lamps each of 100 candle-power and several hundreds of private connexions were also given.

Owing to receiving orders at the last minute it was not possible to derive the maximum revenue possible from private lighting, and the net

result is that the electricity supply to the mela involved an expenditure of about Rs. 13,700.

A contract for the mela lighting arrangements is being negotiated for a period of ten years with the two firms mentioned.

Almora water-supply improvements (*Rs.* 1·75 *lakhs*).—Tenders were invited in September, 1929 for this work, and the lowest tender, that of Messrs. Noorullah Ghazanfarullah for Rs. 1·46 lakhs, was accepted and work has been started. The scheme is for a gravitation supply from springs on the Siahi-ka-Devi hills, a distance of about six miles from the town, and provides for a pipe line under a maximum pressure of 2,200 feet, a bridge over the Ramganga, and the construction of a settling tank, reinforced concrete service reservoir and a laying of four inches diameter steel mains and galvanised iron pipes from 4″ to 1″ diameter.

Bahraich water-supply improvements (*Rs.* 2·70 *lakhs*).—A detailed project for the combined water-supply for Bahraich and Syed Salar fair area is being prepared and will shortly be submitted to the local authorities for approval and sanction.

Bareilly district jail water-supply improvements (*Rs.* 0·06 *lakh*).—This work which was completed last year and handed over to jail authorities is functioning satisfactorily.

Bareilly anti-malarial works (*Rs.* 0·18 *lakh*).—This work is required to complete the storm channel which will pass under the railway embankment. The railway authorities have promised to contribute one-third of the cost, and the Board of Public Health will provide the remainder. The fair project has been sanctioned and construction will be taken up when funds are made available.

Benares water-supply maintenance.—At Bhelupura (the filtered pumping station) the electro-motor-driven centrifugal pumping plant functioned satisfactorily throughout the year and has been maintained in good running order. The old steam pumping plant has been overhauled and will be retained as stand-by plant. The two tube-wells were brought into use to supplement the supply during the time of festivals.

It appears that an appreciable sum of money has been lost by the failure of the inlet chamber and gauging weir at the settling tanks and the new slow sand filter beds recently constructed by the Board's staff. The latter work has already been delayed more than eight months.

At Bhadaini (the riverside pumping station) the vertical H. D. Worthington practically maintained the whole of the supply and the old geared pumping sets were seldom used. The general overhauling has been delayed, but it is hoped the new vertical spindle-motor-driven centrifugal pumping sets will be in full working order in May next.

The census of connexions was completed and a large number of ferrules were adjusted to the rateable value recommended.

The Board agreed to an increase in the expenditure on meters, but have not placed any orders as yet. The Board contributed Rs. 1,60,000 for the cost of water used for municipal purposes and thereby were able to declare a profit on the undertaking of Rs. 1,30,727. This Board maintains the largest supply in the United Provinces per head of population served. Waste is probably more extensive, however, in this supply than in any other city in these provinces.

Benares water-supply improvements (*Rs.* 5·12 *lakhs*).—This work is in charge of Executive Engineer, 2nd division, Public Health department, and the Bhadaini station alone remains to be completed. The sinking of the inlet well was delayed owing to the Ganges floods overtopping the masonry of the structure, otherwise the erection of the pumping sets could have been completed in February last.

Benares drainage.—The forecast of cost amounting to Rs. 26 lakhs was presented to the municipality with a recommended programme of construction in the order of urgency. So far the Board have not recorded their views on these proposals, but public disapproval is still being expressed concerning the contamination of the ghats by foul water.

This aspect of Benares drainage is one which will receive some attention on the part of the Special Committee formed for the preservation of ghats.

The Benares board are prone to delay replies to official correspondence; cases are on record where delays of more than a year in receiving answers have taken place.

The surfaces of the municipal roads in Benares have been the subject of many complaints, and one has only to travel on them to realize how well founded these are.

Bhimtal water-supply (*Rs.* 0·23 *lakh*).—Only a portion of this work comprising the headworks and estimated to cost Rs. 0·06 lakh has been constructed, and this has been handed over to the Notified Area Committee.

Brindaban water-supply improvements (*Rs.* 3·50 *lakhs*).—A trial bore was carried down to 426 feet without finding any water-bearing strata and two percolation wells were constructed, but with disappointing results; again, a 9″ boring at another site was carried down to 256 feet below ground level. In this bore water-bearing strata in two places were encountered, but on test the water obtained from them was found to be so brackish as to be unpotable; further boring work on this site was therefore stopped, and it is now proposed to make another attempt on the west side of the town to discover, if possible, sweet water strata suitable for the supply to this important pilgrim centre.

Brindaban drainage improvement (*Rs.* 3·00 *lakhs*).—It was not possible to take up this project owing to pressure of other works. Moreover, the drainage problem is closely linked with the success of the water-supply for which endeavours are being made to find a solution.

Brindaban Infectious Diseases Hospital (*Rs.* 0·45 *lakh*).—A detailed project for an infectious diseases hospital is being prepared.

Budaun drainage (*Rs.* 0·89 *lakh*).—The fair project was sanctioned by the Board of Public Health and tenders were recently invited. Nine tenders were received and were opened by the municipal board about the end of February last.

The municipal board delayed the acceptance of a tender even though clear recommendations were given by the Executive Engineer.

The work is mainly surface drainage, but some sewers have to be laid and certain road works and pavements have also to be constructed.

Cawnpore water-supply maintenance.—During the last two years the Board have carried out the re-organization of the works through Messrs. Lane Brown and Hewlett, Consulting Engineers, and the following works have been completed and taken over by the municipal board.

At Bhaironghat (the riverside pumping station) the two old vertical Worthington steam sets were taken out and two electro-motor-driven vertical spindle Worthington centrifugal pumping sets installed in their place. When the canal water-supply is not in use these two sets run continuously 21 to 22 hours per day and afford a supply of 8,000,000 gallons. The Worthington rotary triple expansion engine and Babcock and Wilcox boiler is being retained as stand-by plant.

At Benajhabar (the filtered water pumping station) the canal supply pumps were taken over last year. A new pump house was built and Sulzer horizontal electro-motor-driven centrifugal pumps installed, but these are not now in use. An endeavour is being made to complete the new sedimentation tanks before the advent of the hot weather. The new Sulzer horizontal centrifugal electro-motor-driven pumping sets for the filtered water-supply functioned satisfactorily throughout the year. The old steam pumping sets and boilers have been retained as stand-by plant. Two new slow sand filters (nos. 8 and 9) and four additional beds to the Puech-Chabal rapid filtration plant were completed and taken over, as well as a new clear water reservoir (no. 3). These works comprise the first portion of the water-supply extension scheme, and the Board have now under consideration the further improvement in the pressure in certain portions of the City by adding to the supply mains and distribution system.

The Board spent Rs. 12,000 on new meters, and in the first year the revenue was increased by Rs. 11,000 from this source. There are 3,741 connexions of ½″ in diameter and upwards of which 1,313 are metered. This is a far better proportion than in any other municipal water-supply in these provinces.

Credit is due to this Board for the manner in which it has improved its water-works finances in recent years In 1922-23 the total income was Rs. 3·86 lakhs, and there was a deficit on the year's working of Rs. 1·82 lakhs, whereas in 1928-29 the income was 5·61 lakhs, and there was a profit of 2·30 lakhs.

The works have been maintained in good running order, with the exception of the settling tanks which require more frequent cleaning and repair work. The tidying up of the compound, more expenditure on paint and white-washing on the buildings and elevated tanks would also be well justified.

Cawnpore sewage disposal.—Complaints from the public are not absent concerning the pollution of the Ganges by the Cawnpore sewage, and as long ago as 1920 a forecast of cost was presented to the municipal board for farming the sewage.

The Board are alive to the advantage of this process both as a source of revenue and as a method of meeting the criticism regarding the Ganges pollution and have deposited the necessary fees.

The Executive Engineer, Well-Boring Operations division, has this project in hand, but he has been compelled to delay it owing to shortage of staff and pressure of other important works.

The Board have taken steps to increase the capacity of the Parmat Bazar sewage pumping station on the lines recommended to them by the Superintending Engineer, but the time is not far distant when this sewage pumping station will require a further increase in capacity.

Technological Institute, Cawnpore (*Rs.* 1·69 *lakhs*).—A drainage project was prepared last year, but owing to lack of funds did not materialise.

Agricultural College, Cawnpore (*Rs.* 1·19 *lakhs*).—A drainage, sewage disposal and water supply project was prepared last year, but owing to paucity of funds the work was not put in hand.

Debipatan (*Gonda*) *water-supply tube-well* (*Rs.* 0·07 *lakh*).—The tube-well has been completed to a depth of 179 feet below ground level and testing remains to be done. So far as can be judged the strata discovered is favourable for a successful supply.

Dehra Dun water-supply maintenance.—The quantity of water supplied was satisfactorily maintained, but the complaints received regarding the hardness of the Baldi spring supply has necessitated a plant for chlorinating and softening this water.

Dehra Dun water-supply improvement (*Rs.* 0·65 *lakh*).—Paterson chlorinating and softening plant, sedimentation tanks and buildings have been completed, but the plant has not been brought into use as the way-leaves for the sludge drain have not yet been obtained by the Board.

The Executive Engineer investigated the state of the leading main from the Baldi spring to Dehra Dun, and though he reported no appreciable incrustation in the pipes which were taken from the lowest end of the line, yet one pipe removed from the upper end near the springs showed an alarming growth of deposits. Steps have been taken to investigate the case and to explore the extent of the incrustation.

Dehra Dun drainage western portion (*Rs.* 3·15 *lakhs*).—Preliminary proposals amounting to Rs. 3,15,300 were prepared for this part of the work and submitted to the Board. The Board, vide their resolution no. 24, dated September 21, 1929, decided to drop the preparation of the fair project. The western portion of Dehra Dun, which was dealt with in this scheme, is very insanitary, and it is a pity that the Board have given up the drainage of this area.

Dehra Dun Infectious Diseases Hospital (*Rs.* 0·47 *lakh*).—The project, which amounts to Rs. 46,621, is to be financed half by Government grant and half by the Board. Government has given a grant of Rs. 11,655 this year, and a similar sum has been promised for next year. Conditions of contract are being drawn up and tenders will be invited as soon as they are printed.

Fatehpur-Sikri water-supply.—These works were started up in April, 1929. The pumping plant was supplied by Messrs. Jessop & Co., Ltd., Calcutta, and comprises an oil-engine-driven compressor for operating the air-lift pump in the tube-well and a geared duplex double acting reciprocating pump for lifting the water to the elevated balancing tank at the highest point of the town. Following on the continued drought of the last two or three years the water level in the tube-well has dropped about 4 feet and the output from the well to 85

gallons per minute, as against 100 gallons per minute, the rated capacity of the plant. The plant on test was found to be highly efficient and was taken over by the notified area committee on February 10, 1930.

During the history of this town which was founded by the Emperor Akbar, many endeavours have been made to find a suitable source of water-supply and Mr. H. G. Trivedi, Assistant Engineer, who was at the time attached to the Well-Boring Operations division, is entitled to much credit for discovering a site suitable for a tube-well capable of yielding potable water sufficient even for a public standpost supply.

An estimate for extending the supply to meet the needs of the pilgrims attending the Salim Chishti annual fair has been prepared. A standpost has been erected at the Dargah gate to meet the demand of visitors to the Dargah.

Fyzabad water-supply maintenance.—The pumping plant at these works has been maintained in very good order. The water-supply is very popular and the Board has followed the advice of this department regarding rating and when more water is available they should be able to show a small profit each year.

Fyzabad water-supply improvements (*Rs.* 0·50 *lakh*)—The new tube-well of the strainerless type proved satisfactory on test and will be fitted with electro-motor-driven air-lift and centrifugal pump to deliver 300 gallons per minute. This will prove a valuable addition to the supply.

The necessary funds for this work have been received and contract documents are in process of printing so that the tenders for the new plant may be invited and work started as soon as possible.

Fyzabad electric supply.—The Board are negotiating with a private company for a public electric supply to the town but so far no definite agreement has been reported.

Garhmuktesar :—Constructing a well near the police station (*Rs.* 0·03 *lakh*).—The public and the police staff formerly obtained their supply from an old and dilapidated well, the water of which was unfit for drinking purposes. The Board of Public Health provided Rs. 3,086 for a new well which has now been constructed and has been fitted with a hand pump and protected from contamination. As a precautionary measure the old and dangerous well has been filled up.

Ghazipur water-supply (*Rs.* 4·17 *lakhs*).—A forecast of cost has been presented to the Board. This provides for a complete water-supply scheme for the town, for which tube-wells are proposed as the source of supply.

Gokul drainage improvements (*Rs.* 0·60 *lakh*).—Great opposition had to be faced before this scheme was passed and it is this attitude on the part of some members of the public which is responsible for the delay in starting the work. The proposals, it is understood, have now been approved and it is expected that the work will soon be put in hand. The scheme will render it possible to concentrate and treat the foul water of the town at suitable places and do away with the present universal pollution, but the scheme as it stands—although the best that could be devised with the funds available—is a compromise only.

Gola Gokarannath water-supply.—This water-works intended for a supply for drinking purposes and for the maintenance of the water level in

the sacred tank, has received better attention in the matter of the necessary spares being forthcoming than was the case in former years.

Since the pumped supply from the well is wholly insufficient to maintain the level of the water in the tank at a sufficient height for bathing, water has been made available by the Irrigation department from one of the Sarda distributaries and the funds for this work have been provided by the Board of Public Health.

Gorakhpur water-supply (*Rs.* 3·27 *lakhs*).—The preparation of this project has been delayed owing to pressure of other works.

Gorakhpur drainage improvements (*Rs.* 3·50 *lakhs*).—The fair project is nearly ready in pencil but it was not possible to put it in its final shape as the staff of the Executive Engineer, II Division, Public Health department, had to be concentrated on the Kumbh Mela work at Allahabad.

Haldwani water-supply (*Rs.* 0·06 *lakh*).—Some improvements are being proposed to this system and these will consist of re-grading a portion of the leading main where it tends to be intercepted by the hydraulic grade when under maximum draft. The funds are being partly provided by the Board of Public Health in the form of grant.

Hardwar water-supply maintenance.—These works were maintained in good order throughout the year and the pumping plant functioned satisfactorily. The improvement effected in the previous year by cleaning out no. 3 well has been maintained and the yield has now increased from 70 to 150 gallons per minute.

It was proposed to extend the supply to Kankhal and Jwalapur but Kankhal being near the Ganges river bank maintains that its water-supply is satisfactory and does not require an extension from Hardwar. So arrangements are being made to carry out the extensions in Jwalapur.

There was a profit of Rs. 24,140 on the running of these works for the year. The electric supply running in conjunction with the water-works, deriving electric energy from the Irrigation department also made a profit of Rs. 4,348. Considering the large floating population of Hardwar, these results may be regarded as satisfactory although much improvement in the water-works revenue should take place when private connexions become more popular.

Hardwar drainage (*Rs.* 8·14 *lakhs*).—The importance of proper drainage arrrangements being completed before the next Kumbh Mela has not been lost sight of and this case has been brought prominently to notice.

Since the main intercepting sewer could not be carried across the Ganges Canal on the piers of the Mayapur regulator owing to the navigation which takes place, arrangements will have to be made to carry the sewer under the bed of the canal.

At a committee meeting held in Hardwar in February last, the details of this crossing were discussed and since it was found that the canal supply will have to be maintained continuously in future years owing to the grid hydro-electric supply which is derived from the falls on the canal, the advantage of laying the crossing under the canal during the coming rainy season when the canal may be closed perhaps for the last time, has been brought to the notice of Government.

It was also reported that a drainage work of this magnitude will require several seasons to construct and that if it is to be ready in time for the mela very little time remains to decide about its commencement.

Hardwar improvement.—The Executive Engineer, 1st division, has framed proposals for widening the approaches to the Har-ki-Pairi; extending the esplanade and connecting the islands by means of foot bridges. This urgently required improvement has been estimated to cost about Rs. 14·73 lakhs and cost has been approved both by the Board of Public Health and the municipal board. The fair project is now in hand.

In addition to this the Executive Engineer has investigated the unsatisfactory conditions which exist at Bhopatwala and has put forward certain proposals designed for the convenience of the public and the sanitation of this area.

Hathras water-supply improvements (*Rs.* 5·32 *lakhs*).—Two tube-wells have been constructed, and three more are under construction. Contract documents for building work, pipe line and pumping plant are being prepared and tenders will shortly be invited for the construction.

Jaunpur water-supply improvements (*Rs.* 3·84 *lakhs*).—A trial tube-well for water-supply was sunk to a depth of 320 feet below ground level, but no good water-bearing strata was found. Even the water obtained from a fine sand strata was hard and brackish. Recourse must therefore be had to the river Gumti for a water-supply to this town. A forecast of cost with the river Gumti as the source of supply has been presented to the municipal board and approved and forwarded to the Board of Public Health. It has now been sanctioned and the fair project is in hand.

Jhansi water-supply maintenance.—Seventeen cases, where the action taken by the municipal board proved unsatisfactory with regard to the maintenance of water-supply, were brought to the notice of Government early in the year. Interruption in the water-supply occurred during August last which lasted for five days and was due to trouble in the old outlet pipe which passes through the dam at the water-works pumping station.

Babina scheme, Jhansi, (*Rs.* 23·16 *lakhs*).—The fair project has not yet been received from the railway authorities and some fears have been expressed whether it will be possible for the three authorities, namely, the municipal board, the military and the railway to carry through the joint scheme owing to the capital which has to be found.

Jhansi drainage (*Rs.* 0·22 *lakh*).—The municipal board have in hand a scheme amounting to Rs. 21,548 which they are carrying out by their own agency.

The Executive Engineer, 2nd division, Public Health department, has drawn up a detailed project amounting to Rs. 0·99 lakh for the drainage of the Intermediate College for which allotment of fuuds is awaited.

Jhansi (*Chirgaon*) *drainage* (*Rs.* 0·34 *lakh*).—Tenders for this work were invited in November last and the lowest that of Messrs. Noorullah Ghazanfarullah for Rs. 23,518 was accepted. The work which is mainly surface drainage and road work has been started and should be completed during the year.

Kaimganj drainage improvements (*Rs.* 0·60 *lakh*).—This work has been much delayed owing to dispute over property and frequent changes demanded in the design.

Khurja water-supply improvements (*Rs.* 3·28 *lakhs*).—A tube-well costing Rs. 0·20 lakh has been constructed and is being developed.

A detailed project for water-supply to this town with flushing arrangements estimated to cost Rs. 3·28 lakhs has also been prepared and presented to the municipal board.

Khurja electric supply improvements (*Rs.* 1·86 *lakhs*). The estimate for the low tension distribution was prepared by this department, and work of construction started in April, 1929.

The sub-station buildings have been constructed, the overhead distribution system is practically complete, but the transformer equipment is not expected to arrive from England before the end of March, 1930. The work will in all probability be completed by the end of 1930.

The Irrigation department is responsible for the bulk supply and for the high tension feeder grid and electricity will be transformed at the municipal sub-stations and distributed to consumers by the Board.

The question of the management of this supply is now being discussed.

Kosi water-supply (*Rs.* 1·02 *lakhs*).—This water-supply was commenced in May, 1928. The pumping plant was supplied by Messrs. Jessop and Company, Limited, Calcutta, and comprises an oil-engine driving the air compressor for the air-lift pump in the tube-well and a centrifugal pump for lifting the water to the elevated tank in the city. The yield from the tube-well is 122 gallons per minute. The supply is intended as a standpost supply only but a few metered trade supplies may also be allowed.

Kosi drainage.—This is in the nature of an anti-malarial measure, but owing to pressure of other works, the Executive Engineer has not been able to proceed with the project.

Lucknow water-supply maintenance.—The generating plant for the motor-driven filtered and unfiltered water-supply pumps at Aishbagh and Gaughat and for the sewage pumps worked satisfactorily throughout the year with the exception of the boilers which gave considerable trouble.

The Board on more than one occasion have complained to Government that these boilers were defective from the start and have made this the basis of a demand for further financial assistance from Government. The provision of these boilers was a part of the reorganization work completed by the 3rd division on behalf of the Board in 1924 and the Superintending Engineer especially investigated these complaints and recorded his inability to agree that the allegations made by the Board were correct.

The following facts cannot be disputed; during a period extending over the last three years the Board's attention has been drawn to the inferior coal which they have purchased and on many occasions their attention has been drawn without success to the necessity for letting the contract for fuel supply on a proper specification with guarantees and for the necessity of carrying out surprise analyses of the fuel delivered.

The fuel consumption returns of the Board show that the consumption has increased from 5·46 lbs. of coal per unit of electricity generated in

1925-26 to 8·2 lbs in 1929-30. So inferior has the fuel indeed proved that the furnace bars and the furnace masonry have been vitrified and destroyed and when the United Provinces Electric Supply Company took over the generating station from the Board a few weeks ago they found it imperative to rebuild the furnaces of all four boilers. The coal consumption per unit generated with the Supply Company's fuel is now reported to be in the neighbourhood of 4 lbs. per unit generated.

The steam economising plant was also neglected to such an extent that it was completely thrown out of action for nearly two years and the combined effect of this and the inferior fuel used in the boilers resulted in an enormous fuel consumption for the power generated. The loss to the taxpayer may be gauged from the fact that the fuel charges at this station admit of an immediate reduction of about Rs. 1,000 per week now that the boilers are properly attended to and proper coal used.

The water-supply on more than one occasion has been insufficient for the public demands owing to the fuel troubles referred to above.

In addition to the trouble with the boilers, the slow sand filters have been neglected and in spite of this having been brought to attention of the Board in numerous inspection reports extending over a period of four or five years, two of these filters have been out of commission for fifteen months thereby reducing the number of effective slow sand filters to four. With the result that not only has the output been reduced but undue stress has been thrown upon the Paterson rapid filtration plant which could not be overhauled and which has been worked far beyond its rated capacity. This has caused an inferior filtrate to be supplied to the public.

The Board have taken no steps to deal with the marked inequalities in the distribution where large areas are starved of their proper share of supply whilst other areas derive such a copious supply that waste has reached alarming dimensions.

The cantonment supply was cut off completely for days at a stretch owing to the failure of the municipal mains and the ineffective measures taken to reinstate them.

Lucknow water-supply improvements (*Rs.* 15·65 *lakhs*).—This work is being carried out by the Executive Engineer, 2nd division, Public Health department. The new cantonment main designed to deliver the guaranteed supply to cantonments without any loss *en route* was completed; but when the accident to the old main took place, much trouble was caused by the municipal staff giving orders to the departmental contractors direct thereby upsetting the programme of work and resulting in disputes regarding the payment of final bills.

The duplication of the Paterson filtration plant is nearing completion and some of the units have already been brought into use.

Lucknow drainage.—The Ghaziuddin Hyder canal lining and intercepting sewer recently completed by the Executive Engineer, 2nd division, functioned satisfactorily throughout the year having withstood several severe rain storms.

Proposals for the extension of this work as far as the industrial area is concerned, have been drawn up and will cost about Rs. 2 lakhs.

The western intercepting sewer has not been brought into operation though a considerable sum of money has been spent in reinstating its lower length by means of rivetted steel pipes laid on well foundations. Further lengths of the old work keep failing as they are connected to the reconstructed portion. No steps have been taken to reinstate the breaches in the Civil Lines sewer or the eastern intercepting sewer. The net result of these defects is to cause the fouling of the Gumti, by the discharge of large quantities of sewage, the surcharging of great lengths of sewer extending as far as the Kaisarbagh with sewage and deposit a process which threatens to completely choke the present system within a measurable period. The ponding of the sewage causes back flow into the Ghaziuddin Hyder canal lining in the vicinity of the Havelock Road and below the Wingfield Park and results in a considerable nuisance. This defective system of drainage at Lucknow has a most important bearing on the general sanitary condition of the town and therefore on the health of the public. It is, therefore, high time that steps were taken to remedy this state of affairs.

Lucknow sewage farm.—Only a fraction of the available sewage can be pumped on to the farm owing to the breaches in the main sewers and out of the 685 acres of land available only 178 acres is brought under sewage irrigation. The farm has been auctioned on leases of five years duration and these will not expire for another year and where this occurs the opportunity should be seized upon to reorganize the farm and to let it out on leases of one year's duration by public auction. The average return from the land irrigated amounts to only Rs. 15 per acre whereas experience in other towns shows that as much as Rs. 200 per acre is possible. Some considerable work is required at the sewage farm in reinstating distributaries and syphons which have fallen into disuse before the total area can be brought into use.

Meerut.—The pumping plant was well maintained by the Water-Works Superintendent and the plant is in a very good order when it is remembered that it has been in use for 34 years. The settling tanks and filter beds are also in good condition. This Board have repaid all their interest and sinking fund charges on the original loan and yet there is an average deficit of Rs. 1,992 per annum and the Board in spite of advice makes no effort to cover the running expenditure from revenue. The water supply to Civil Lines and other outlying areas is so scanty as to cause numerous complaints.

There are 506 private connexions of ½″ diameter size and upwards and of these only 37 have been metered. The Mechanical Adviser has made suggestions to this Board concerning the improvement of the Civil Lines supply which deserve careful attention.

Meerut drainage.—This work which is in the project stage has not progressed owing to the fact that the Executive Engineer, 1st division, has been pressed with other works.

Meerut electric supply.—A project was drawn up by the Executive Engineer for an electric supply to Meerut and was sanctioned and funds were allotted on loan by Government. Tenders were called for by advertisement and the seals broken at a general meeting of the municipal board and after the tenders had been checked and examined, the placing of the contract was recommended. The municipal board,

however, did not agree with the recommendations and though the points which they raised were of a technical nature, they persisted in their refusal and requested the Superintending Engineer to call for tenders again, allowing only ten days' grace. The Superintending Engineer did not see his way to agree to this proposal firstly because the objections which were raised on technical points could not be substantiated and secondly because ten days were not sufficient time for all the firms to revise their tenders. The matter was reported to Government.

Mirzapur water-supply maintenance.—Some improvement has been made in the finances of this supply during the last two years owing to an increase in the assessment rating, but the Board have been considering for the last five years the revision of the water-supply rules without tangible results.

Although there are 839 connexions of ½″ diameter and upwards, only 77 of these are metered. The revenue derived from the metered connexions was 4·99 annas per thousand gallons as against 1·21 annas by assessment rating, so that the improvement that could be affected in income by installing more meters is not in doubt.

About seven years ago, the Board were advised to have the Venturi meter repaired and applied to the leading main so that a continuous record of the consumption of water and the pressure in the mains might be available. All that has been effected during this period has been relaying of the pipes at the new site, and the repairs to the mechanism of the meter for which an insignificant sum is required, have so far not been completed.

Moradabad water-supply and flushing.—The bore-hole type pump on which this supply depends had to be dismantled for repairs and caused the pumping operations to be held in abeyance for about six weeks. The Board have not purchased the spare parts which were recommended and the plant had to be shut down again for a period of another six weeks.

Moradabad flushing improvements (Rs. 0·12 lakh).—This work has been completed and includes the extension of pipe lines and the provisions of standposts for water-supply to the public.

Mussoorie water-supply maintenance.—The pumping plant was maintained in good running order at the four pumping stations. The new Landaur supply functioned satisfactorily throughout the year and has afforded much benefit to cantonment and the bazar. The distribution system was generally well maintained and an adequate supply was provided at all levels at Mussoorie. Great credit is due to the Board's Electrical Engineer and staff in the maintenance of a complicated system under high lifts.

Mussoorie electric supply.—This supply has passed through several crises which on several occasions completely shut down the Galogi hydro-electric station and but for the Diesel engine plant installed at Kalugarh, the public would have been deprived of electricity for long periods at a stretch.

It is feared that the worst of the trouble has not yet been experienced, for, several millions of cubic feet of excavation have been

dislodged in the construction of the upper section of the Mussoorie motor road and this debris moves down the hillsides, fills the torrent bed and with each rain storm passes in large quantities down the stream feeding the Galogi power pipes.

Since the debris has been dislodged no intense or prolonged rainfall has been experienced in the catchment and it is feared that masses of debris may be washed down in the rains in such a quantity as to completely bury the headworks. The Board's engineer is fully alive to the danger and has taken vigorous steps to meet it, but the Board are handicapped by lack of funds.

A special pipe or flume has been laid from an adjacent catchment free from the debris which will enable a partial supply to be fed into the power pipes and steps have been taken to fit the collecting reservoir with scour sluices and sloping floors so that the debris may be flushed out of the tank instead of having to be excavated and carried out by means of labour gangs.

Steps are also being taken with a view to constructing another tank a short distance upstream of the existing headworks, which will be self-flushed, with a view to assisting in maintaining a continuous supply to the power pipes.

This city Board have recently based a demand for financial assistance from Government on allegations that they were forced into providing the Diesel generating station, that the advice given them was unsound and that a steam generating station would have been preferable.

The facts however transpire that the scheme was drawn up by the Board's own staff and was criticised by the Government officers, and that a steam plant was considered as an alternative but was rejected owing to the difficulties inherent in the nature of the water available and the transit of coal fuel. Recent events have fully borne out both the necessity for the Kalugarh station and the excellence of its design for which the officers of the Imperial Stores department were responsible in collaboration with the Board's engineer, Lieutenant-Colonel Bell.

The Mussoorie-Dehra Dun supply has grown to such dimensions that it is perhaps beyond the capacity of Mussoorie Board to administer, as many of the members are absent from the station for the greater part of the year.

Mussoorie drainage.—Owing to financial stringency apparently it has not been found possible to extend the piped drainage system which this Board constructed in an enterprising manner some years ago.

Muttra water-supply maintenance.—Ninty-nine per cent. of the pumping was done by no. 1 pumping set taking electric energy from the Electric Supply Company. The Diesel sets were kept in running order as stand-by plant.

Owing to the partial failure of the last two monsoons the sub-soil water level has dropped about five feet and the yield from the three tube-wells has been reduced to 750 gallons per minute. Work has been commenced on the sinking of a new well to be connected to no. 1 suction pipe and culvert and also on a new tube-well no. 5 which will be operated independently of the present plant. These two wells should add 500 to 600 gallons per minute to the present supply. The shortage of water has

caused considerable agitation and refusals to pay rates. Although there has been a deficit on these water-works for a number of years the Board has not reorganized its water-works staff as recommended two years ago and has failed in its endeavours to make the works self-supporting.

Its Water-Works Superintendent had occasion to petition Government concerning his treatment by this Board a short time ago, and the Board's orders were set aside by Government.

Muttra water-supply extension (*Rs.* 0·82 *lakh*).—Two new wells are under construction, one to supplement the supply from one gallery and the other will work as an independent unit. The Executive Engineer, Well-Boring Operations division, has these works in hand.

Muttra sewage disposal—additional pumping (*Rs.* 0·33 *lakh*).—The sewage pumping station has functioned satisfactorily and most of the pumping has been done by the electro-motor-driven pumps recently installed by Messrs. Harland Engineering Company.

The sewage farm has been taken over by the Executive Engineer, 1st division, and maintained on funds provided by the Board of Public Health. This course has been adopted with a view to ascertaining what the actual cost of maintaining a sewage farm is, how sewage can best be disposed of during the various seasons of the year and what revenue is possible.

In spite of the misgivings expressed in many quarters the land has been put up to auction annually; during the first year the amount realized per acre averaged Rs. 12 whilst the bids for the second year averaged Rs. 100 per acre. It has been found necessary to extend the area of the farm and 80 acres will shortly be brought under irrigation.

Muttra banjatra route water-supply (*Rs.* 0·07 *lakh*).—Tenders are being called for two more wells on this route which will be fitted with hand pumps and protected from contamination.

Muzaffarnagar mandi drainage (*Rs.* 4·63 *lakhs*).—A project for this work amounting to Rs. 4·63 lakhs was sanctioned in 1927. The municipal board have taken a loan of one lakh and Rs. 40,000 have been given by Government as grant. A programme of work for Rs. 1,43,000 has been drawn up and work to this amount is under execution. Only a very limited portion is covered by this amount and unless the Board endeavours to finance the remaining portion of the work the condition of the mandi will remain unsatisfactory.

Twenty-two tenders were received for this work when it was advertised and the contract was let to the lowest tender which was 30 per cent. below the estimated rates. Some anxiety was expressed by the Superintending Engineer at the time this contract was let as regards the quantity of the work and its rapid prosecution. Subsequent events proved the misgivings to have been justified, for several accidents have taken place one of which was fatal and the progress of the work leaves much to be desired.

The construction work was started in August last year and will be completed during 1930-31.

Naini Tal water-supply maintenance (*Rs.* 0·49 *lakh*).—The electric motor driven pumping plant was maintained in good running order. It has been decided to dispose of the old steam pumping plant which has

remained as a stand-by since 1922. The lakeside pumping plant and chlorinating apparatus have also been kept in working order.

The lake levels showed signs of depletion to a greater extent than heretofore recorded and since some doubt was expressed concerning the accuracy of the records, arrangements have been made whereby the levels observed by the Executive Engineer, Provincial division's staff, will also be forwarded to the Superintending Engineer, Public Health department, and plotted independently.

The Board on its own account have decided to add an additional set at the Durgapur generating station and it appears, propose to pay for it out of the revenue obtained from the supply. No project was received, nor was any information given concerning this extension so that the Superintending Engineer could not record his opinion regarding the proposal.

Patwadangar electrification (*Rs.* 0·39 *lakh*).—The extension of the supply to Patwadangar has enabled the Lymph dépôt to substitute electric motors for the oil engine and has also enabled the municipal supply to increase its revenue.

The Bhowali extension, a provincial work, is held in abeyance owing to financial stringency.

Najibabad Government high school tube-well (*Rs.* 0·04 *lakh*).—This tube-well was intended to supply drinking water to the students of the Government high school as both the quality and the quantity of water available in the ordinary wells at Najibabad is unsatisfactory. Boring to a depth of 260 feet was done although a depth of 160 feet only was provided in the sanctioned estimate, but no water-bearing strata was found. An attempt on the part of the railway authorities was also not successful, so it was decided not to make any further attempt but to finally close down the work. Advice has in consequence been given to construct one or more shallow wells designed to utilize the only strata of fine sand which is available between depths 39 and 42 feet below ground level.

Piran Kaliar mela water-supply (*Rs.* 0·40 *lakh*).—A tube-well of the new type was successfully completed and handed over to the Sajjadanashin of Piran Kaliar in October, 1929. This well yielded over 200 gallons per minute with a depression of 13 feet.

A contract for the building and distribution portion of the scheme has been let and work has just been started. Conditions of contract for machinery are under preparation but these have been delayed for lack of definite information regarding the source and charges for power.

Rae Bareli water-supply improvements (*Rs.* 4·00 *lakhs*).—A tube-well was completed in 1929 and handed over to the municipal board. A supply of only 100 gallons per minute with a depression head of about 30 feet is available. No good water-bearing strata was found although the boring was carried down to 400 feet below ground level. It will, therefore, be necessary to construct three wells to initiate the water-supply to this town. The proposal is being further examined with special reference to its effect on the financial position of the Board.

Rae Bareli drainage improvements (*Rs.* 1·48 *lakhs*).—A forecast of cost which provides for the completion of the surface drainage in the undrained portion of the town and the construction of underground sewers and outfall has been presented to the municipal board at their request.

Rishikesh infectious diseases hospital (*Rs.* 0·35 *lakh*).—A forecast of cost for this work was prepared. The fair project will be taken in hand as soon as fees for its preparation are deposited. The acquisition of a site is in process.

Saharanpur drainage improvements (*Rs.* 2·05 *lakhs*).—A project for this work amounting to Rs. 13·23 lakhs was prepared in the year 1922-23, but as the Board was unable to take up the whole scheme it is now proposed to divide the work in instalments. A revised scheme for the first instalment has been prepared and has been presented to the municipal board.

Shahjahanpur drainage improvements (*Rs.* 11·95 *lakhs*).—A forecast of cost arranged in suitable instalments was supplied to the municipal board last year, but they have now decided to drop the scheme on grounds of its high cost.

Sikandrabad drainage improvements (*Rs.* 2·49 *lakhs*).—The survey work of the town was completed early last year, and the plans prepared. The forecast of cost has since been drawn out in pencil, but due to staff being engaged on other important work this could not be faired out. It is hoped to finish this project soon.

The proposals provide for kerb and channel drains in the town, regrading two storm channels and using them for foul water. It has been so arranged that the work can be taken up in instalments as funds permit. The amount of the forecast of cost for the complete work is Rs. 2 lakhs for surface work and Rs. 49,000 for storm channels.

Unao water-supply maintenance.—The pumping plant was kept in good running order

The water-supply has become very popular and as the two tube-wells and the pumping plant have become inadequate to meet the demand, work will shortly commence on the sinking of a new tube-well and a duplicate pumping plant is to be installed. The works generally have been well maintained and the Board have taken both interest and pride in their water-supply.

Unao drainage.—An estimate for Rs. 1 89 lakhs has been approved for this work but the Board found it beyond their resources to finance and have approached Government for financial assistance.

Other miscellaneous works.—In addition to the works noted above water-supply proposals for Laldhang, district Bijnor, Agra police lines water-supply improvements, water-supply to villages in the Naini Tal district, Nimsar water-supply, Etawah water-supply and Dewa fair water-supply; drainage proposals for Banbhulpura, Allahabad Kotwali, precincts of the Allahabad district jail, Kaimganj, Moghal Sarai, Bara Banki, Bilsi, Ramnagar, Bewar Bazar and Kanauj were considered.

Anti-malarial works such as the drainage of hollows and filling in of pits and constructing drains at Piran Kaliar were also completed together with the provision of sanitary fittings to a number of Government buildings in Lucknow. Many and various forecasts of cost for a large number of smaller towns for health works were supplied to the local bodies concerned.

Staff.—The post of the Superintending Engineering, Public Health department, was held throughout the year by Mr. G. McC. Hoey, and

that of his personal assistant by Mr. H. G. Trivedi. Mr. Hoey also held the post of Water-Works Engineer and Mechanical Adviser to Government from March 24, 1929 to November 19, 1929, during the time Mr. F. J. Mallett was on leave.

Mr. Hoey also continued to administer the Agricultural Engineering section throughout the year.

On return from leave Mr. F. J. Mallett held the post of Water-Works Engineer and Mechanical Adviser to Government till the close of the year. Mr. J. K. Singh continued as Assistant to the Water-Works Engineer and Mechanical Adviser to Government.

Charge of the 1st division, Public Health department, Meerut, was held by Mr. S. B. Mathur from March 23, 1929 to October 28 1929, when Mr. W. Saise on return from leave replaced him. Mr. Saise then, held charge of the division till the close of the year.

Mr. F. D. Tunnicliffe continued as Executive Engineer, 2nd divisions Public Health department, Allahabad, and Mr. N. D. Choudhury a Executive Engineer, Well-Boring Operations division, Public Health department, Cawnpore, throughout the year.

In addition to the above six assistant engineers of the Public Health Engineering Service, and six temporary engineers, nine subordinates of the Subordinate Engineering Service and eighteen temporary subordinates with the requisite number of computors, draftsmen and clerical staff were employed.

The Superintending Engineer inspected all important municipal water-works as well as all works under construction and the Mechanical Adviser recorded his periodical inspection reports of all open water-works and rendered assistance in preparing specifications, advising on tenders and in testing plant.

The Superintending Engineer served as usual as a member on the Board of Public Health and was also appointed to serve on the United Provinces Town Improvement Trusts Committee. He also assisted at other committees, including the selection committee for the Board of Industries.

The Superintending Engineer's services were lent to the Gwalior Durbar to advise on the Gwalior water-supply and drainage works and on Ujjain water-works; his services were also made available for the Rajputana Agency to advise on drainage.

The Superintending Engineer was also appointed to a committee to advise on the preservation of the Benares ghats in addition to his ordinary duties.

Sanction was also given to Mr. F. D. Tunnicliffe to advise the Rewah Durbar on water-supply and drainage of Rewah town.

The writer is proceeding on leave from April 16, 1930, and since the municipal returns cannot possibly be received and checked by that date, Mr. F. D. Tunnicliffe will undertake the completion of appendices and returns and, if necessary, add a note to this report further commenting on the year's work.

G. McC. HOEY, M. INST. C.E.,
Superintending Engineer,
Public Health department,
United Provinces.

The usual difficulty has been experienced in the completion of the appendices of this report due to the dilatoriness of certain boards in supplying the necessary correct information in time. In a good many cases numerous letters, reminders and telegrams have had to be despatched, and in some instances members of the staff have been sent to collect the information, some of which even now is not forthcoming and in consequence the submission of this report is delayed.

Certain Boards appear to be having difficulty in filling the post of Assistant Electrical Engineer consequent on the electrification of their water-works pumping plant, and although suitable candidates are forthcoming, considerable delay is taking place in making these appointments. It is most important that properly qualified and experienced men be appointed against these vacancies, otherwise there is a grave danger of valuable plant being ruined and a breakdown in the water supply.

Out of fifteen water-works administered by municipal authorities only four give credit for water used for municipal purposes. This irregularity has been pointed out time after time, and results in some cases in a deficit on the year's working being shown instead of a credit.

More Boards show a deficit this year than in the previous year but the total nett profit on all the fifteen water-works administered by the municipalities is greater than last year; the total amounting to Rs. 7,00,151 as against Rs. 5,67,593 for 1928-29. Seven boards show a deficit amounting to Rs. 38,392 as against a deficit of Rs. 64,481 shown by five boards in 1928-29.

F. D. TUNNICLIFFE,
M. C., ASSOC. M. INST. C.E.,
Offg. Suptdg. Engineer,
Public Health department,
United Provinces.

LUCKNOW:
June 3, 1930.

APPENDICES.

APPENDIX

Statement of operations of various water works

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
Population.						
1. By Census of 1921 in municipality.	163,902	145,653	195,373	195,085	217,167	77,711
2. By Census of 1921 in cantonments.	22,044	11,567	3,074	21,351	23,399	44,898
3. Inhabitants drawing their supply from mains.	185,946	157,220	198,447	216,436	201,234	77,711
Consumption of water.						
4. Metered supplies—						
(*a*) Cantonments. Million Gallons.	168·137	94·663	0·875	10·049	105·560	Nil
(*b*) Trade. Million Gallons	60·995	11·916	1·035	310·419	28·406	14·659
(*c*) Domestic (bungalows, etc.) Million Gallons.	78·822	29·689	14·836	396·395	198·941	0·459
(*d*) Buildings ,,	0·876	7·068	17·577	27·032	6·118	3·574
Total metered supplies. Million Gallons.	308·830	143·336	34·323	743·89	339·025	18·692
5. Unmetered supplies—						
(*a*) Domestic (assessment or ferrule). Million Gallons.	1,339·164	1,173·619	1,772·184	1,515·278	950·901	203·172
(*b*) Municipal purposes (road watering, irrigation, and flushing, etc.) Million Gallons.	175·951	391·064	211·233	433 050	500·204	3·507
(*c*) Stand posts. Million Gallons.	243·289	266·654	356·684	203·378	300·500	199·728
(*d*) Buildings. Million Gallons	2·876	8·355	3·537	5·349	54·490	Nil
Total unmetered supplies. Million Gallons.	1,761·280	1,839·692	2,343·628	2,157·055	1,806·095	406·407
6. Total quantity pumped during the year (Items 4 and 5) Million Gallons.	2,070·110	1,983·028	2,377·951	2,900·950	2,145·120	425·099
7. Daily average supply. Million Gallons.	5·672	5·433	6·515	7·948	5·877	1·165
8. Maximum daily average in any one month. Million Gallons.	6·407	6·309	7·122	10·127	7·429	1·326
9. Consumption per head per day for trade alone. Gallons.	0·90	0·21	0·01	3·93	0·39	0·52
10. Consumption per head per day for municipal purposes and buildings. Gallons.	2·65	7·08	3·21	5·89	7·63	0·25
11. Consumption per head per day for domestic purposes. Gallons.	26·95	27·26	29·61	26·90	21·17	14·22
12. Total consumption per head per day (Items 9, 10 and 11). Gallons.	30·50	34·55	32·83	36·72	29·19	14·99
13. Hours of daily supply.	10·00	15·00	10·40	16·00	22·00	16·00
14. Total hours of pumping during the year.	9,784	13,035	7,296	12,771	9,009	6,234
Lift of pumps.						
15. From river to settling tanks. Feet.	47·00	126·70	86·99	81·39	107·50	15·16
16. From filtered water pumps to town distribution. Feet.	142·00	95·41	84·74	92·30	64·90	125·25
17. Total lift. Feet ..	189·00	222·11	171·73	173·69	172·40	140·41

No. I.

n the United Provinces for the year 1929-30.

Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
12,943	16,517	34,092	54,385	54,994	42,615	51,342	9,024	11,147
2,346	802	Nil	12,069	Nil	10,235	5,278	Nil	Nil
15,289	17,319	34,092	25,000	38,400	42,615	30,000	9,024	9,000
6·133	1·841	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Nil	0·153	0·235	0·460	13·137	0·80	Nil	0·564	Nil
35·886	16·599	5·643	3·145	1·138	3·320	8·859	0·453	0·560
Nil	0·329	Nil	Nil	Nil	0·146	0·760	1·593	Nil
42·019	18·922	5·878	3·605	14·278	4·271	9·619	2·610	0·560
11·590	15·404		1·768	178·570	89·224	69·739	32·168	
15·453	11·506		21·110	107·881	22·068	20·921	26·037	
		104·122						40·657
46·358	17·705		26·396	69·800	123·538	41·843	26·530	
3·863	0·059		Nil.	0·888	2·447	6·974	0·253	Nil
77·264	44·674	104·122	49·274	357·139	237·277	139·477	84·988	40·657
119·283	63·596	110·000	52·879	371·414	241·548	149·096	87·598	41·217
0·327	0·174	0·301	0·145	1·017	0·662	0·408	0·240	0·113
0·381	0·258	0·435	0·162	1 047	0·797	0·468	0·355	0·147
Nil	0·02	0·02	0·05	0·94	0·05	Nil.	0·17	Nil
3·46	1·88	8·82	2·31	7·76	1·59	2·62	8·46	12·55
17·91	8·16		3·43	17·80	13·89	11·00	17·96	
21·37	10·06	8·84	5·79	26·50	15·53	13·62	26·59	12·55
24·00	14·62	24·00	8·77	24·00	7·50	9·50	18·00	11·00
12,606	5,347	Nil	Nil	Nil	4,933	5,940	8,654	3,435
Murray 1811·50	H. Z. 1,148·60	Gravity Supply.	—9·83	Gravity Supply.	185·54	12·80	178·30	47·00
Mackinon 639·00	I Z. 451·60		220·83					83·00
Bhilaru 1385·68	L. Z. 252·60					124·60		
Av. 1,320·57	Av. 562·06	..	211·00	..	185·54	137·40	178·30	130·00

APPENDIX

Statement of operations of various water work

Particulars.	Agra	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
18. Total Horse Power hours during the year in million.	1·48	0·95	1·03	1·35	0·70	0·27
Supply connections. *Unmetered.*						
19. Number of connections made during 1929-30.	191	212	644	543	553	92
20. Total number of connections.	4,978	6,125	13,939	9,099	9,591	1,377
Metered.						
21. Number of house connections made during 1929-30.	7	37	38	121	25	1
22. Total number of house connections.	171	308	110	1,180	400	14
23. Number of trade connections made during 1929-30.	6	2	8	4	4	2
24. Total number of trade connections.	106	38	40	133	72	23
Annual charges and cost of water supplied.						
25. Maintenance charges Rupees.	1,38,618	2,05,595	2,14,394	2,96,864	2,66,206	36,340
26. Interest and sinking fund charges. ,,	68,008	1,56,052	1,02,052	34,522	55,391	..
27. Total charges ,,	2,06,626	3,61,647	3,16,446	3,31,386	3,21,597	36,340
28. Cost per 1,000 gallons per 100 feet lift. Annas.	0·57	0·75	0·84	0·94	1·15	0·98
29. Cost per 1,000 gallons maintenance charges. ,,	1·07	1·66	1·44	1·64	1 99	1·37
30. Cost per 1,000 gallons interest and sinking fund charges. ,,	0·53	1·26	0·69	0·19	0·41	..
31. Total charges per 1,000 gallons (items 29 and 30). ,,	1·60	2·92	2·13	1·83	2·40	1·37
Income from Water Works.						
32. Unmetered.—						
(*a*) Water rate recovered (assessment or ferrule)	Rs. 1,41,551	3,48,0[illegible]4	2,61,505	3,98,366	3,39,112	24,907
(*b*) Amount credited to water works for water used for municipal purposes.	,, 21,994	Nil	1,60,000	Nil	Nil	Nil
(*c*) Buildings and other receipts.	,, 3,300	4,119	19,484	5,510	62,162	604
Total ..	1,66,845	3,52 173	4,40,989	4,03,876	4,01,274	25,511

No. I—(*continued*).

the United Provinces for the year 1929-30.

Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
0·80	0·18	Nil	Nil	Nil	0·24	0·10	0·08	0·03
..	..	1	10	83	81	72	44	Nil
155	5	2	69	2,515	1,702	993	179	161
7	22	6	1	5	Nil	3	Nil	1
481	327	53	8	8	Nil	43	11	2
Nil	2	Nil	Nil	5	2	Nil	2	Nil
Nil	27	2	2	69	23	Nil	2	Nil
73,221	47,327	8,924	19,686	11,256	53,824	31,555	25,775	7,394
28,833	25,589	12,873	Nil	21,788	18,350	11,426	11,424	Nil
1,02,054	72,916	21,797	19,686	33,044	72,174	42,981	37,199	7,394
0·74	2·11	Nil	2·82	Nil	1·92	2·46	2·64	2·21
9·82	11·90	1·30	5·95	0·48	3·57	3·38	4·71	2·87
3·87	6·44	1·87	Nil	0·94	1·21	1·23	2·08	Nil
13·69	18·34	3·17	5·95	1·42	4·78	4·61	6·79	2·87
45,356	46,213	24	13,850	26,077	61,642	35,206	18,114	7,929
Nil		Nil	Nil	Nil	6,579	Nil	10,984	Nil
1,310	6,150	3,610	161	894	2,063	592	30,503	263
46,666	52,363	3,634	14,011	26,971	70,284	35,798	59,601	8,192

APPENDI

Statement of operations of various water work

Particulars.		Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
33. Metered.—							
(*a*) Sale of water by meter.	Rs.	1,22,247	58,700	5,144	1,44,980	1,15,774	8,733
(*b*) Meter rent	,,	1,634	2,733	1,040	12,502	6,596	104
Total	,,	1,23,881	61,433	6,184	1,57,482	1,22,370	8,837
34. Total income (items 32 and 33).	,,	2,90,726	4,13,606	4,47,173	5,61,358	5,23,644	34,348
Income and working charges.							
35. Receipts per 1,000 gallons supplied through meter.	Annas.	6·42	6·86	2·88	3·39	5·77	7·56
36. Receipts per 1,000 gallons assessment rating.	,,	1·52	3·06	3·01	2·99	3·55	1·00
37. Receipts per 1,000 gallons on total consumption.	,,	2·25	3·34	3·01	3·10	3·91	1·29
38. Profit or loss per 1,000 gallons supplied (item 31—37).	,,	Profit 0·65	Profit 0·42	Profit 0·88	Profit 1·27	Profit 1·51	Loss 0·09
39. Profit or loss on year's working. Rupees		,, 84,100	,, 51,959	,, 1,30,727	,, 2,29,972	,, 2,02,047	,, 1,992

I—(*concluded*).

e United Provinces for the year 1929-30.—(*concluded*).

oorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
36,974	32,595	9,823	1,461	4,148	503	1,328	1,626	234
2,513	2,524	Nil	69	308	141	704	112	Nil
39,487	35,119	9,823	1,530	4,456	644	2,032	1,738	234
86,153	87,482	13,457	15,541	31,427	70,928	37,830	61,339	8,426
15·04	29·69	26·74	6·79	4·99	2·41	3·38	10·65	6·68
9·66	18·78	0·56	4·55	1·21	4·74	4·11	11·22	3·22
11·56	22·01	1·96	4·70	1·35	4·70	4·06	11·20	3·27
2·13	Profit 3·67	Loss 1·21	Loss 1·25	Loss 0·07	Loss 0·03	Loss 0·55	Pro. 4·41	Pro. 0·40
15,901	,, 14,566	,, 8,340	,, 4,145	,, 1,617	,, 1,246	,, 5,151	,, 24,140	,, 1,032

APPENDIX No. I (A).

Statement showing total demand, amount recovered, remissions and arrears of various water works in the United Provinces during the year 1929-30.

Water-works stations.	Total demand.	Total amount recovered.	Total amount of remissions.	Arrears on March 31, 1930.		Remarks.
				Total amount.	Percentage.	
	Rs.	Rs.	Rs.	Rs.	Rs.	
Agra	4,05,659	§ 2,90,726	16,865	98,774	24·35	§ Excess recovery Rs. 703.
Allahabad..	4,54,878	4,13,606	1,941	39,331	8·65	
Benares	5,55,039	4,47,173	5,010	1,02,906	18·54	
Cawnpore	6,62,831	5,61,358	5,641	95,832	14·46	
Lucknow	5,30,650	5,23,644	143	6,863	1·29	
Meerut	37,637	34,348	153	3,136	8·33	
Mussoorie	94,802	86,153	3,069	5,580	5·88	
Naini Tal	90,001	†87,432	36	2,508	2·79	† Excess recovery, Rs. 25. ‡ Rupees 158, excess recovery last year and Rs. 2 transferred from miscellaneous to water cost added to and Rs. 27 realized in excess during the current year deducted from total amount recovered
Dehra Dun	13,763	13,457	127	179	1·30	
Jhansi	15,854	15,541	106	207	1·30	
Mirzapur	62,642	31,427‡	9,135	21,947	35·03	
Muttra	86,303	70,928	1,895	13,480	15·62	
Fyzabad	41,049	37,830	2,386	833	2·03	
Hardwar	20,678	20,355*	113	225	1·09	* Excess recovery Rs. 15 and excludes Rs. 10,984 and Rs. 30,000 for municipal purposes and fair funds.
Unao	10,468	8,426	133	1,909	18·23	
Total ..	30,82,304	26,42,454	46,753	3,93,710		

Statement showing number and size of all connections ; also number and size of metered connections for the year 1929-30.

Name of stations.	Size of connections.																		
	1/8 inch.	3/16 inch.	1/4 inch.	3/8 inch.	1/2 inch.	5/8 inch.	3/4 inch.	1 inch.	1¼ inch.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	Unknown connections.	Total.
Unmetered supplies.																			
Agra	634	..	790	2,722	542	..	185	80	..	24	..	1	..	..	..	..	..	..	4,978
Allahabad	542	..	1,122	2,909	1,339	60	48	86	..	10	9	..	..	..	..	..	..	..	6,125
Benares	3,091	..	9,030	897	848	12	19	18	4	1	1	15	1	1	..	..	..	*1	13,939
Cawnpore	..	652	3,986	2,033	1,473	8	337	438	23	94	..	..	..	..	..	..	..	†5	9,099
Lucknow	..	..	..	7,993	1,192	108	166	116	12	2	2	..	..	..	..	..	..	..	9,591
Meerut	..	..	..	1,408	438	..	21	10	..	..	..	..	..	..	..	..	..	..	1,877
Mussoorie	..	..	..	..	155	..	..	..	..	..	..	..	..	..	..	..	..	..	155
Naini Tal	..	..	..	..	1	..	2	1	1	..	..	..	..	..	..	..	..	..	5
Dehra Dun	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	2
Jhansi	..	..	5	...	52	..	5	1	..	1	5	..	..	..	..	...	..	..	69
Mirzapur	13	..	192	1,548	479	6	170	59	47	1	..	..	..	..	..	..	..	..	2,515
Muttra	360	..	1,163	73	102	..	4	..	..	..	..	..	..	..	..	..	..	..	1,702
Fyzabad	691	..	185	63	54	..	..	..	..	..	..	..	..	..	..	..	..	..	993
Hardwar	46	..	60	5	68	..	..	..	..	..	..	..	..	..	..	..	..	..	179
Unao	57	..	69	25	10	..	..	..	..	..	...	..	..	..	..	..	..	..	161
Total ..	5,434	652	16,602	19,676	6,754	194	1,007	810	87	133	17	16	1	1	..	..	..	6	51,390
Metered supplies.																			
Agra	3	..	16	58	88	..	54	28	..	15	2	5	..	5	2	..	1	..	277
Allahabad	..	..	..	1	127	54	77	48	..	7	12	12	6	1	..	1	..	..	346
Benares	..	..	..	..	88	..	19	19	11	7	4	2	..	..	..	..	..	..	150
Cawnpore	..	..	..	..	530	..	206	335	9	145	48	30	10	..	..	..	..	..	1,313
Lucknow	..	..	..	..	196	..	99	109	..	40	14	8	5	..	..	..	..	‡1	472
Meerut	..	..	..	..	29	..	3	3	..	..	..	2	..	..	..	..	..	..	37
Mussoorie	..	..	..	..	427	..	48	6	..	..	..	..	..	..	..	..	..	..	481
Naini Tal	..	..	..	..	64	264	20	5	..	1	..	..	..	..	..	..	..	..	354
Dehra Dun	..	..	..	..	34	..	5	14	..	2	..	..	..	..	..	..	..	..	55
Jhansi	..	..	..	..	..	..	1	3	..	3	3	..	..	..	..	..	..	..	10
Mirzapur	..	..	..	..	..	17	31	18	2	7	..	1	..	1	..	..	..	..	77
Muttra	..	..	..	..	17	..	3	1	..	1	1	..	..	..	..	..	..	..	23
Fyzabad	..	..	..	..	21	..	11	11	..	..	..	..	..	..	..	..	..	..	43
Hardwar	1	..	3	..	7	..	2	..	..	..	..	..	..	..	..	..	..	..	13
Unao	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Total ..	4	..	19	59	1,629	335	580	600	22	228	84	60	21	7	2	1	1	1	3,653

*2½ inches. | †Tee connection. | ‡15 inches.

APPENDIX

Annual maintenance accounts of

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
I.—Establishment—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(a) Pumping	15,572	45,261	35,110	20,682		9,932
(b) Workshops	4,963		11,732	5,466		..
(c) Settling tanks and filters ..	492	5,863	317	11,196		432
(d) Inlet chambers, well and grounds, etc.	..	Included in (a).	..	..	68,395	..
(e) Distribution	9,982	12,029	13,133	14,977		4,344
(f) Clerical staff	1,925	Included in (a).	4,637	3,335		1,715
(g) Menial staff	3,111		1,150	776		1,318
(h) Office contingencies	3,695	2,570	1,182	717	895	974
(i) Rent	410		552	844	445	60
II.—Fuel, lubricants and stores—						
(a) Fuel (coal, fuel oil or electric energy).	(1)47,527	(2)1,17,971	(3)1,16,191	(4)1,60,021	(5)1,27,692	(6)
(b) Lubricating oil	4,960	3,266	2,348	1,368	3,827	428
(c) Waste	467		1,050	165		171
(d) Packing	450	** 3,208	267	..	3,546	622
(e) Petty stores	5,764		5,969	2,701		1,559
III.—Intake—						
(a) Training river	8,455	..	30	..	..	..
(b) Cleaning channels and wells ..	5,445	..	20	..	33	55
IV.—Settling tanks and filters—						
(a) Cleaning settling tanks and wells	3,057	..	2,300	..	21,136	100
(b) Cleaning and renewing filter-beds	6,322	Charged to capital outlay.	2,968	68	2,756	550
(c) Purchase of sand	11,818		1,226	..	8,870	828
(d) Purchase of alumino ferric ..	378	9,124*	4,881	9,155	Included in IV (a).	3,091
V.—Distribution—						
(a) Pipes and fittings	466	2,814	1,259	6,673	2,450	339
(b) Metres	..		525	10,552	40	..
(c) Standposts or hydrants ..	175		..	..	..	..
VI.—Repairs—						
(a) To tanks	351	..	96	..	9	870
(b) To buildings and grounds ..	1,089	1,419	2,726	782	552	1,160
(c) To machinery	688	913	1,452	975	23,343	1,597
(d) To rising main	..	..	993	..	..	..
(e) To tools and plant	56	..	..	763	..	..
VII.—Water analysis	..	1,157	2,280	987	2,217	861
VIII.—Cost of water—						
Canal department dues	1,000	..	..	44,661	..	5,334
Total ..	1,38,618	2,05,595	2,14,394	2,96,864	2,66,206	36,340
Interest and sinking fund charges ..	68,008	1,56,052	1,02,052	34,522	55,391	..
GRAND TOTAL ..	2,06,626	3,61,647	3,16,446	3,31,386	3,21,597	36,340

**Includes Rs. 1,500 charges for water taken from Bund tube well.

* Including other filter stores.

(1) Rs. 10.050 less on consumption. Electrical charges for Maithan and Chilli-Int Rs. 2,746 cost of fuel oil Rs. 16,239.

(2) Rs. 10,810 less on consumption. Electrical charges for Mayo Hall Rs. 4,554 and for Karelabagh and Khusrubagh Rs. 73,970. Cost of fuel oil for Daraganj Rs. 1,265.

(3) Rs. 7,812 less on consumption. Electrical charges for Bhelupura Rs. 66,425.

(4) Electrical charges.

(5) Rs. 1,207 less on consumption.

(6) No fuel was purchased during the year. Pumping done by turbines. Last year's stock was used for banking engines and workshop.

(7) Electrical charges. Include Rs. 142 for fuel oil.

(8) Electrical charges.

o. II.

ater works during the year 1929-30.

Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
7,665		..	3,220		9,142	6,134	2,375	1,575
..		..	..		780	1,824	1,636	..
..		..	..	5,356	..	..	..	..
..	7,262	..	..		..	..	..	..
1,912		..	..		3,060	1,911	2,718	564
..		2,000	..	420	..	774	480	..
1,383		4,266	..	1,543	354	1,470	455	262
1,601	398	167	270	234	60	879	225	121
..	..	..	..	..	..	..	..	..
(7) 42,431	(8) 34.349	..	(9) 7,142	..	(10) 39,425	(11) 11,400§	(12) 16,099	(13) 2,382
	167							
70	50	..	212	..	10	3,564	48	1,215
		..	36	..	40	66	..	97
751		..	270	..	18	52	40	..
	1,112	..	97	..	252	227	100	53
..	..	..	1,161†	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	91	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
3,615	1,035	1,786	298	2,182	302	99	250	..
4,918	..	..	31	..	..	487	..	111
..	..	..	..	154	..	..	..	..
2,237	209	..	11	506	..	327	250	50
3,606	325	..	††704	73	155	280	249	13
2,035	977	..	1,002	..	135	1,796	130	790
..	396	..	210	..	..	..	..	..
..		..	686	..	..	92	150	..
997	1,047	705	2	788	..	223	570	161
	..	..	4,334	..	..	..	..	..
73,221	47,327	8,924	19,686	11,256	53,824	31,555	25,775	7,394
28,833	25,589	12,873	..	21,788	18,350	11,426	11,424	..
1,02,054	72,916	21,797	19,686	33,044	72,174	42,981	37,199	7,394

(9) Rs. 519 in excess of consumption.

(10) Electrical charges. Includes Rs. 15 for kerosine oil. No fuel oil was purchased during the year. Last year's stock was consumed.

(11) Rs. 2,734 in excess of consumption. Includes Rs. 2,574 cost of fuel oil for 1928-29 and Rs. 2,000 for 1930-31.

(12) Electrical charges.

(13) Rs. 31 less on consumption.

††Includes Rs. 19 for wells and Rs. 42 fo scarcity.

§ Includes Rs. 2,574 cost of fuel oil for 1928 29 paid in 1929-30.

† For Suction Main.

APPENDIX No. III.

Statement showing costs initial of subsequent extensions and improvements, chargeable to capital on the various water works in the United Provinces for the year ending March 31, 1930.

Water-works stations.	Initial capital cost.	Cost of subsequent extension, etc.	Expenditure during the year 1929-30.	Total of each line.
	Rs.	Rs.	Rs.	Rs.
Agra	11,70,761	21,68,597	1,90,708	35 30,066
Allahabad	16,24,061	24,46,267	3,38,015	44,08,343
Benares	25,61,881	14,90,601	2,70,010	43,22,492
Cawnpore	14,44,570	20,26,746	1,32,569	36,03,885
Lucknow	15,15,736	44,50,779	3,23,596	62,90,111
Meerut	7,51,710	67,975	12	8,19,697
Mussoorie	4,79,754	7,48,833	37,393	12,65,980
Naini Tal	2,47,000	7,96,258	4,612	10,47,870
Dehra Dun	97,241	3,27,381	50,397	4,75,0.9
Jhansi	96,556	96,634	592	1,93,782
Mirzapur	5,98,492	1,25,953	5,233	7,29,678
Muttra	5,17,288	84,275	6,321	6,07,884
Fyzabad	9,48,662	45,059	379	9,94,100
Hardwar	1,96,919	2,83,776	..	4,80,695
Unao	1,18,664	647	17,182	1,36,493
GRAND TOTAL ..	1,23,69,295	1,51,59,781	13,77,019	2,89,06,095

APPENDIX No. IV.

utement showing filter area out of operation, rate of filtration and results of water analysis of the water-works in the United Provinces during the year 1929-30.

Water-works.	Sand filter area out of operation per million gallons pumped sq. feet.	Filtration rate in gallons per sq. foot per day of sand filter.			Water from supply mains.						
					Chemical analysis.			Bacteriological analysis.			
		Maximum.	Minimum.	Average.	Good.	Bad.	Total.	Number of samples tested.	Number of samples containing over 100 colonies.	Average number of microbes per c. c.	Percentage (on total) of samples over 100 per c. c.
ra	2,483	34·00	24·00	31·74	3	..	3	404	Nil	30·38	..
ahabad	8,397	25·00 * 2,150	12·50 * 1,006	19·62 * 1,537	5	..	5	567	29	36·9	5·1
nares	4,269	50·00	25·00	43·55	16	..	16	454	6	59·23	1·32
wnpore	586	66·00	16·00	44·82	3	..	3	604	Nil	19·25	..
icknow	15,102	37·50 * 2,500	12·50 * 603	32·41 * 1,487	4	..	4	208	12	45·69	5·76
eerut	3,832	31·00	25·00	30·59	4	..	4	256	Nil	23·24	..
ussoorie	Water-supply from deep springs and is not filtered,				3	..	3	65	3	32·91	4·61
aini Tal					4	..	4	101	51	155	50·5†
ehra Dun ..					10	..	10	52	39	435	75†
ansi	..				Information not available.						
irzapur	Gravitation supply.				..	1	1	91	1	65·9	1·1
uttra	Tube well supply.				5	..	5	115	Nil	29·4	..
yzabad					6	..	6	96	Nil	17·92	..
ardwar					12	..	12	348	6	26·38	1·7
nao					1	..	1	14	5	86·5	35·71

* Paterson Filters.

† Probably due to multiplication of bacteria in transit from the hill stations to Lucknow.

APPENDI

Details of pumps, filters, tanks, reservoirs, rising mains, etc , in the

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
1. Floor levels :—						
Unfiltered station. R L.	505·00′	296·00′ (steam plant): 230·00. (electric plant).	254·00′	402·00′	367·50′	735·50′
Filtered station. R. L.	505·00′	321·25′	263·00′	410·00′	395·50′	735·50′
2. Highest water level during the year, R. L.	494·40′	272·80′	235·05′	373·00′	348·50′	805·00′
3. Lowest water level during the year, R. L.	481·80′	234·00′	192·30′	357·00′	342·50′	771·00′
4. Particulars of plant :—						
Unfiltered station..	2 Diesel sets	1 Triple expansion rotary.	1 H.D. Worthington.	1 Triple expansion rotary.	2 Mather and Platt motor-driven centrifugal pumps.	2 Water-power turbines
	1 L. D. Worthington.	2 Beam engines. 3 Mather and Platt " Lonovane " Centrifugal pump direct driven by A. C. motors.	2-Geared sets.	2 vertical spindle centrifugal pumps direct driven by motors at river side. 3 sets of centrifugal pumps direct driven by electric motor at unfiltered station Benajhabar.	..	1 semi-portable engine.

V.

er-works of the United Provinces for 1929-30.

ssoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
ay spr- 5,494′.	Gravitation supply.	Gravitation supply.	749·50′	Gravitation supply.	..	..	..	..
ru ing 5,700′.	..	..	..	..	580·00′	328·57′	941·80′	411·34′
inon ing 6,000′.	..	..	767·95′	460·00′	..	..	..	..
our ing 6,663′.	..	..	750·60′	455·50′	..	..	..	..
..	..	..	2 Compound Worthington pumps.	..	..	..	..	..

APPENDIX

Details of pumps filters, tanks, reservoirs, rising mains, etc., in th

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
Filtered station ..	2 Belliss and Morcom. 1 H. D. Worthington. 2 Beams 2 Motor-driven Worthington-Simpson. 2 Centrifugal pumps at Maithan and Chilli-Int.	3 Mather and Platt "Lonovane" Centrifugal pumps direct driven by A. C. motors. 2 Beams (Standby).	4 Horizontal centrifugal pumps direct driven by A. C. motors. 2 Pairs of coupled beams (Standby).	2 L. D. Worthington. 1 H. D. Worthington. 4 sets of centrifugal pumps direct driven by A. C. motors.	4 Belliss and Morcom engines direct connected to alternators. 3 Mather and Platt centrifugal pumps driven by A. C. motors.	2 Water-power turbines.
5. Capacity of pumps :—						
Unfiltered station G.P.M.	Diesel 3,000 each. L. D. Worthington 1,700 each.	Triple expansion engine 2,700. Beam engines 2,100 each. Centrifugal pumps 3,000 each.	H. D. Worthington 8,333. Geared 4,200 each.	Triple expansion 3,625. Centrifugal pumps. River side 3,500 each. Benajhaber 3,600 each.	Centrifugal pumps 7,500 each.	1,200 each.
Filtered station G.P.M.	Belliss 2,500 each. H. D. Worthington 2,300. Beams 3,000 each. Worthington pumps 500 each.	Beams 3,100 each. Electric pumps 3,750 each. ..	Beams 7,500 each. 4 Motor-driven centrifugal pumps. 3—3,600 each. 1—5,400.	H. D. Worthington 4,719. L. D. Worthington 3,125 each. Centrifugal pumps 3,500 each.	3 Centrifugal-XX pumps. 1—6,000 .. 2—4,000 each..	1,100 each.

V—(*continued*).

r-works of the United Provinces for 1929-30.

soorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
y ng :— ets trically en ed e ram ps le action ing. ru ng :— sets as e. non ng :— umps bove with ble action ing. emi- el oil ne. ur :— ets of thing- Simp- three w le ger er ps en by ropoli- Vick- reduc- ors.	Lake station :— Steam pumps. Main station :— Three L. D Worthington (Stand-by). Four Mather and Platt motor driven pumps. Two Triple ram geared pumps.	Unfiltered supply.	Unfiltered supply.	Unfiltered supply.	2-Two cylinder Mirrless Diesel engines. D. C. generator and motor-driven Mather and Platt centrifugal pumps. One set converted to A. C. motor taking energy from the Electric Supply Company.	2-Two cylinder Mirrless Diesel engines and motor driven Mather and Platt centrifugal pumps.	2-Mather and Platt centrifugal pumps driven by A. C motors.	1-30 B. H. P. Tangye oil engine. 2 Air lift pumps in tube wells and 6" Worthington centrifugal pumps.
..	..	..	209 each	..	..	..	..	..
y ng 183. u ng 196. non ng 85. ur ng 56.	Lake 239 Main—One pump 213, Two pumps 86 each. 2 H. Z. 125 each. 2 I. Z. 176 each. 2 L. Z. 310 each.	..	..	..	1,000 each..	900 each	250 each..	220

APPENDI

Details of pumps filters, tanks, reservoirs, rising mains, et

Particulars.	Agra.	Allahabad,	Benares.	Cawnpore.	Lucknow.	Meerut,
6. Number of :—						
(*a*) Rising mains.	Two ..	Two ..	Two ..	Two ..	Two ..	One .
(*b*) Leading mains.	Nine ..	Fourteen ..	Three ..	Six ..	..	Nil .
(*c*) Distribution mains.	Two ..	Eleven ..	One ..	Twelve ..	..	Ten .
7. Length and size of :—						
(*a*) Rising mains.	2·5 miles 28″ 1·75 „ 18″	1·63 miles 20″ 1·63 „ 20″	0·89 miles 24″ (old). 0·77 miles 24″ (new).	1·39 miles 20″ 1·39 „ 20″	3·5 miles 20″ (old). 3 miles 27″ (new).	Two portion 7·25 mil 15″. 1·61 mil 13″.
(*b*) Leading mains.	2,400 feet 24″ 10,550 „ 18″ 3,400 „ 16″ 975 „ 15″ 6,150 „ 12″ 900 „ 10″ 1,950 „ 9″ 12,200 „ 8″ 1,400 „ 7″	930 feet 30″ 2,640 „ 25″ 2,310 „ 20″ 13,216 „ 16″ 3,712 „ 15″ 6,078 „ 14″ 1,980 „ 12″ 1,825 „ 10″ 1,980 „ 9″ 8,125 „ 8″ 6,930 „ 7″ 3,465 „ 6″ 3,300 „ 5″ 4,719 „ 4″	16,896 feet 30″ to 8″. 21,648 feet 30″ to 6″. 2,217 feet 15″	7,200 feet 28″ 1,575 „ 26″ 850 „ 25″ 4,450 „ 20″ 1,650 „ 18″ 5,800 „ 16″		Nil.
(*c*) Distribution mains.	2,650 feet 10″ 8,200 „ 12″	4,812 feet 14″ 6,600 „ 12″ 2,550 „ 10″ 3,258 „ 9″ 12,663 „ 8″ 11,277 „ 7″ 21,682 „ 6″ 15,520 „ 5″ 92,028 „ 4″ 55,440 „ 3″ 10,725 „ 2″ Rider main is included in the distribution main.	3,30,158 feet 18″ to 3″.	600 feet 15″ 825 „ 14″ 2,200 „ 12″ 2,100 „ 11″ 5,486 „ 10″ 8,675 „ 9″ 14,025 „ 8″ 10,219 „ 7″ 17,300 „ 6″ 43,575 „ 5″ 45,650 „ 4″ 77,467 „ 3″		211 feet I 66 „ I 1,017 „ 701 „ 1,030 „ 8,792 „ 19,696 „ 5,554 „ 720 „ 591 „

V—(*continued*).

e water-works of the United Provinces for 1929-30.

ssoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
..	Six ..	Nil ..	One ..	One ..	One .	One ..	One ..	One.
..	Six ..	Six ..	One ..	Eight ..	Three ..	One ..	Seven ..	Nil.
..	Two ..	Eleven ..	Ten ..	Five ..	Thirteen ..	Eleven ..	Three ..	Three.
							Four portions.	Two portions.
miles 5″ ,, 4″ ,, 3½″ ,, 3″	0·25 mile 6″ 0·93 ,, 5″ 0·34 ,, 5″ 0·49 ,, 5″ 0·66 ,, 4″ 0·66 ,, 3½″	Nil ..	3·65 mile 9″	5·73 miles 12″.	0·91 mile 12″	1·34 miles 14″.	0·11 mile 8″. 0·11 miles 10″. 0·18 miles 12″. 0·13 miles 15″.	0·20 mile 6″. 0·10 mile 5″.
feet 4½″ ,, 4″ ,, 3½″ ,, 3″ ,, 2″	5,280 feet 5″ 3,200 ,, 3″ 30,581 ,, 2½″ 12,070 ,, 2″ 5,050 ,, 2″ 16,834 ,, 1½″	7,370 feet 6″. 17,405 feet 5½″. 2,502 feet 4″. 63,500 feet 3″. 22,000 feet 2½″. 12,500 feet 2″.	228 feet 10″	8,169 feet 16″ 2,862 ,, 15″ 1,674 ,, 12″ 1,350 ,, 10″ 2,697 ,, 9″ 3,111 ,, 8″ 1,320 ,, 6″ 972 ,, 4″	24 feet 18″ 1,155 ,, 14″ 660 ,, 12″	50 feet 15″	690 feet 15″. 5,328 feet 12″. 6,352 feet 10″. 2,248 feet 8″. 4,384 feet 6″. 1,143 feet 4″. 310 feet 3″	Nil.
feet 2½″ ,, 2″ ,, 1½″ ,, 1¼″ ,, 1″ ,, ¾″	22,595 feet 1″ 24,600 ,, ¾″	462 feet 5″ 10,893 feet 4″. 18,780 feet 3″. 10,753 feet 2½″. 8,273 feet 2″. 4,400 feet 1¾″. 7,920 feet 1½″. 3,780 feet 1¼″. 13,674 feet 1″. 3,465 feet ¾″. 389 feet ½″	2,570 feet 9″ 1,980 ,, 6″ 9,075 ,, 6″ 2,550 ,, 4″ 7,450 ,, 4″ 16 ,, 2″ 16 ,, 2″ 16 ,, 2″ 16 ,, 2″ 16 ,, 2″	558 feet 7″ 1,362 ,, 6″ 2,007 ,, 5″ 8,034 ,, 4″ 46,074 ,, 3″	660 feet 12″ 1,155 ,, 9″ 660 ,, 8″ 2,640 ,, 7″ 3,630 ,, 6″ 7,755 ,, 5″ 12,045 ,, 4″ 45,244 ,, 3″ 660 ,, 2½″ 8,123 ,, 2″ 14,071 ,, 1″ 1,573 ,, ¾″ 2,045 ,, ½″	43 feet 15″ 138 ,, 14″ 62 ,, 12″ 1,175 feet 10″. 3,805 feet 9″. 1,650 feet 8″. 7,125 feet 7″. 7,350 feet 6″. 7,050 feet 5″. 16,350 feet 4″. 22,791 feet 3″.	2,560 feet 6′. 3,893 feet 4″. 2,763 feet 3″. 15″ main 690 ft. in length is common to both rising and leading main.	981 feet 5″ 1,183 feet 4″. 22,011 feet 3″.

APPENDI

Details of pumps, filters, reservoirs, rising mains, et

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
8. Number of settling tanks.	Five ..	Three ..	Three ..	Five ..	Three ..	Three ..
9. Size of settling tanks.	266′×151′×16′ each.	Top 346′×230′ Bottom 296′ ×100′ Height 16·75′.	Nos. 1 and 3— 409·5′×225·0′ ×18′ each. No. 2—409·5′ ×258·3′×18.′	Three—343·5′ ×243·5′×15′ each. Two—906·5′× 334′×8′ each	240′×290′× 16·5′ each.	100′×60·5′ ×11′ eac
10. Capacity of settling tanks. Gallons.	2,200,000 each.	No. 1 & 3— 4,400,620 No. 2— 4,455,626.	No. 1 & 3— 8,640,756 each No. 2— 8,722,146	Three— 7,840,460 each. Two 15,000,000 each.	7,000,000 each.	528,000 each
11. Number of :— (a) Slow sand filters.	Seven	Six	Nine	Nine— Twelve Puech Chabal.	Seven	Four
(b) Mechanical filters.	One	Five	..	..	Five	..
12. Size of :— (a) Slow sand filters.	200′×100′ each.	200′×100′ each.	200′×100′ each.	200′×100′ each. Puech Chabal—156′×28′ each	200′×100′×7′ each.	150′×100 each.
(b) Mechanical filters.	23′×19′ each	23′×19′ each	..	..	23′×18′×10′ each.	..
13. Number of clear water reservoirs.	Three	Two	Two	Three	Two	One
14. Size of clear water reservoirs.	105′×103′×10′ each.	116·8′×181·8′ ×12′ each.	178⅓′×148⅓′ ×12′ each.	Two old—135′ ×106⅔′×12′ each. One new— 135′×200′× 12′.	107′×105′×12′ each.	52½′×48′×7
15. Capacity of clear water reservoirs. Gallons.	676,000 each	1,168,700 each	1,854,068 each.	Two old— 953,300 each. One new— 2,025,000.	793,500 each	110,600
16. Number of service reservoirs.	Four	One	One	Two	One	Two
17. Size of service reservoirs.	H. Z. (1)66′ dia.×11⅓′ deep. L. Z. (2)28′× 16′×8′ each (1)60′×16′× 8′.	58 25′ dia × 31′ deep.	60′ dia. ×15′ deep.	50·5′×36′ at Parade 50·5′×40′ at Waterworks.	60′×60′×12′	25′×34′ each

V—(*continued*)

he water-works of the United Provinces for 1929-30.

soorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	One chlorine plant.	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	
..	One ..	..	..	..	..	..	..	One.
×25′×8′ Murray pring. ×20′×18′ Mackinon pring. ×25′×8′ Bhilaru pring. ×14′ dia.× Landour ,000 ,000 ,000 ,000	45′×40′×6′	..	..	..	..	..	..	11·5′ dia. ×6′ deep.
Eight	67,500	..	..	..	..	..	..	3,892
un Hill ′×37½′× ′. un Hill ′×20′×8′. ncent Hill ′×25′×8′. ′×25′×8′. ′×29′×8′. avoy Hill ′×22′×6′. andour —14′ dia. ×12′ each. unidin —14′ dia. ×12′ each.	Eighty-eight	Nil	Nine.	One.	Two.	One.	Two.	One pressed steel tank.
	Small—82 Large—6 *Small.* 32 – 3′×8′ each. 29 – 2·6′×3′ each. 1 – 4′×3′ 3 – 4′×5′ each. 17 – 6′×8′× 4′ each. *Large.* 1 – 36′×15′ ×9·5′. 1 – 29·5′×15′ ×9·5′. 1 – 20′×10′ 1 – 18′×10′ 2 – 22·5′× 13·3′ each.	Nil	1 – 40′×15′ ×8′. 1 – 4′×4′×4′ 7 – 5′×5′×5′ each.	200′×75′× 14′ deep.	32′×20′ each	39′ – 7½″ dia×15′ – 6″deep.	62′ – 8″× 60′×12′ each.	20′×20′× 8′.

APPENDIX

Details of pumps, filters, tanks, reservoirs, rising mains, etc., in the

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.
18. Capacity of service reservoirs. Gallons.	H. Z. 275,000 L. Z. (2) 24,400 each. (1) 48,000	500,000	265,000	At Parade 321,306 At water-works 396,785	250,000	100,000 eac
19. Number of public standposts.						
One tap ..	246	169	91	57	267	42
Two taps ..	73	60	58	50	180	..
Four taps ..	63	82	73	80	..	..
W. N. Cocks ..	47	40	43	119	..	92
Bib Cocks ..	14	224	1		..	2
Push Cocks ..	122	4	..		..	..
Wall Fountains ..	2	..	34	$	..	..
Other types ..	7	15	2	..	..	..
Total ..	579	594	302	309	447	136
20. Number of fire hydrants.	148	193	87	153	360	97
21. Number of road watering posts or stand pipes.	47	127	163	15	93	Swan neck Cocks 8
22. Number of catttle troughs.	50	34	28	24	42	17

. V—(*concluded*).

ter-works of the United Provinces for 1929-30.

ussooria.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
219,375 30,000 60,000 50,000 30,000 65,175 60,000 40,000	228,070	..	1— 30,000 1— 400 7— 779 each.	1,310,000	100,000 each	120,000	250,000 each.	20,000
5	72	37	..	34	204	45	..	22
35	..	48 Three taps 6	8 Three taps 4	27	35	42	Fitted with W.N. cocks 38	15
..	..	4	4	9	..	..	..	1
9	..	50	..	56	..	16	..	..
5	157	77	..	78	..	..	6	12
3	..	40	..	32	..	..	..	..
..	..	..	..	..	..	..	(Garden fountain) 1	..
1	3	1	..	..	..	..	27	..
58	160	263	16	236	239	103	72	50
..	16	..	..	121	8	43	9	17
10	..	4	1	3	9	17	4	1
9	5	9	4	16	19	7	..	..
					Flushing tanks 5 Flushing pipes 16 Urinal connections 2 Water flushing latrine 1 Pail dépôts connections 2 Connections to drain hand-pump 1			

APPENDIX No. VI.

Detailed estimate of expenditure incurred on health works under supervision of the Superintending Engineer, Public Health department, during the year 1929 30.

Serial number.	Name of place.	Water works original and special repairs.	Water works maintenance.	Drainage works.	Other works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
1	Agra	1,79,656	1,38,618	21,855	10,475	3,50,60
2	Agra Dayalbagh	5,807	..	..	..	5,80
3	Aligarh	2,83,924	..	3,602	..	2,87,52
4	Allahabad	3,38,015	2,05,595	27,738	1,191	5,72,53
5	Allahabad magh mela	53,909	2,984	..	* 15,691	72,58
6	Almora	6,504	..	1,246	..	7,75
7	Amroha	..	..	760	..	76
8	Atrauli	334	..	151	2,779	3,26
9	Bahraich	2,097	..	..	11,354	13,45
10	Ballia	741	..	357	704	1,80
11	Balrampur	..	..	..	134	13
12	Banda	412	..	141	816	1,36
13	Baraut	..	..	110	1,492	1,60
14	Bareilly	1,098	..	8,815	..	9,91
15	Bela (Partabgarh)	..	..	272	296	56
16	Benares	2,70,010	2,14,394	1,15,273	..	5,99,67
17	Bijnor	288	..	244	5,353	5,88
18	Bindraban	..	..	1,144	1,152	2,29
19	Budaun	..	..	23,330	551	23,88
20	Bulandshahr	158	..	..	..	15
21	Cawnpore	1,32,569	2,96,864	1,21,212	1,06,509	6,57,15
22	Chandausi	..	..	..	2,633	2,63
23	Dehra Dun	50,397	8,924	3,758	..	63,07
24	Etah	..	..	2,633	..	2,63
25	Etawah	..	..	129	1,610	1,73
26	Fatehgarh (Farrukhabad)	145	..	2,616	..	2,76
	Carried over ..	13,26,064	8,67,379	3,35,386	1,62,740	26,91,56

* Electric supply.

APPENDIX No. VI—(*continued*).

Detailed estimate of expenditure incurred on health works under supervision of the Superintending Engineer, Public Health department, during the year 1929-30.

Serial number.	Name of place.	Water-works original and special repairs.	Water-works maintenance.	Drainage.	Other works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
	Brought forward ..	13,26,064	8,67,379	3,35,386	1,62,740	26,91,569
27	Fatehpur	..	..	392	392	784
28	Fatehpur Sikri	40,059	..	..	..	40,059
29	Fyzabad	3,631	31,555	6,956	..	42,142
30	Ghaziabad	..	..	881	2,734	3,615
31	Gorakhpur	..	..	5,966	17,765	23,731
32	Gonda	287	..	1,535	10,200	12,022
33	Hapur	330	..	987	1,591	2,903
34	Hardoi district	..	..	25,952	..	25,952
35	Hardwar	..	25,775	1,821	1,178	28,774
36	Hathras	1,132	..	1,373	..	2,505
37	Jaunpur	5,102	..	1,718	32,811	39,631
38	Jhansi	592	19,686	8,040	230	28,548
39	Kaimganj	..	..	9,773	..	9,773
40	Kanauj	1,000	..	..	..	1,000
41	Kashganj	..	..	3,607	..	3,607
42	Khurja	16,169	..	..	8,887	1,12,076
43	Kosi	26,374	..	..	*87,020 ..	26,374
44	Lakhimpur	940	..	9,914	..	10,854
45	Lucknow	2,79,466	2,66,206	† 71,749	58,570	6,75,991
46	Mainpuri	..	..	578	..	578
47	Meerut	12	36,340	..	..	36,352
48	Mirzapur	5,233	11,256	1,774	4,093	22,356
49	Moradabad	7,067	..	..	..	7,067
	Carried over ..	17,13,458	12,58,197	4,88,402	3,88,211	38,46,268

* Electric supply.

† Anti-malarial works.

APPENDIX No. VI—(*concluded*).

Detailed estimate of expenditure incurred on health works under supervision of the Superintending Engineer, Public Health department, during the year 1929-30.

Serial number.	Name of place.	Water-works original and special repairs.	Water works maintenance.	Drainage works.	Other works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
	Brought forward ..	17,13,458	12,58,197	4,88,402	3,88,211	38,46,268
50	Mussoorie	44,563	73,221	3,265	1,766	1,22,815
51	Muttra	6,321	53,824	1,048 *31,271	981	93,445
52	Muttra Banjatra Route	1,552	..	..	..	1,552
53	Muzaffarnagar	..	..	44,539	1,518	46,057
54	Nagina	315	..	1,132	1,500	2,947
55	Naini Tal	2,431	47,327	6,174	7,395	63,327
56	Najibabad	809	..	419	8,354	9,582
57	Nawabganj (Bara Banki)	..	..	2,021	..	2,021
58	Orai	..	..	233	153	386
59	Pilibhit	182	..	910	1,838	2,930
60	Rae Bareli	665	..	1,773	..	2,438
61	Roorkee	..	..	386	4,986	5,372
62	Saharanpur	..	..	17,445	..	17,445
63	Sahaswan	253	..	898	422	1,573
64	Sandila	173	..	479	377	1,029
65	Shahjahanpur	..	..	887	5,533	6,420
66	Sikandrabad	..	..	281	..	281
67	Sitapur	..	..	108	..	108
68	Sitapur district	..	..	46,143	..	46,143
69	Soron	..	..	315	4,564	4,879
70	Sultanpur	189	..	566	385	1,140
71	Tilhar	..	..	..	1,744	1,744
72	Tanda	..	..	319	..	319
73	Unao	17,182	7,394	432	5,475	30,483
	Total ..	17,88,093	14,39,963	6,49,446	4,35,202	43,12,704

* Sewage works.

Comparative statement of fuel consumption, working expenses and receipts of various water-works in the United Provinces during the year 1929-30.

Number.	Name of water-works.	Class of work, gravitation or pumping.	Fuel consumed.	Fuel consumption per 1,000 foot gallons.	Price of fuel per ton.	Total (average) lift.	Percentage of charges for					Per 1,000 Gallons.		Per head of total population per annum.			Remarks.
							Establishment.	Fuel.	Oil and waste.	Repairs to machinery.	Other charges.	Total working cost.	Total receipt.	Total working cost.	Total receipt	Loss or profit.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
			Tons.	Lbs.	Rs.	feet.						As.	As.	As.	As.	As	
1	Agra ..	Pumping ..	(1)3572·50	·02012	16·12	189·00	28·96	34·29	3·91	0·50	32·34	1·60	2·25	17·78	25·02	7·24	Profit.
2	Allahabad ..	Ditto ..	(2)10,006·85	·05089	12·87	222·11	31·97	57·38	1·59	0·44	8·62	2·92	3·34	36·80	42·09	6·29	,,
3	Benares ..	Ditto ..	(3)9065·64	·04973	13·68	171·73	31·63	54·20	1·58	0·68	11·91	2·13	3·01	25·51	36·05	10·54	,,
4	Cawnpore ..	Ditto ..	(4)	..	..	173·69	19·53	53·90	0·52	0·33	25·72	1·83	3·10	24·50	41·50	17·00	,,
5	Lucknow ..	Ditto ..	(5)11826·35	·07163	10·90	172·40	26·19	47·97	1·44	8·77	15·63	2·40	3·91	25·56	41·61	16·05	,,
6	Meerut ..	Turbines worked by water power.	(6)	..	..	140·41	51·66	..	1·65	4·40	42·29	1·37	1·29	7·48	7·07	0·41	Loss.
7	Mussoorie ..	Pumping and gravitation.	..	..	..	Av. 1320·57	17·15	57·95	0·10	2·78	22·02	13·69	11·56	106·80	90·16	16·64	,,
8	Naini Tal ..	Ditto ..	(7)	..	..	Av. 562·06	16·19	72·58	0·46	2·06	8·71	18·34	22·01	67·36	80·82	13·46	Profit.
9	Dehra Dun ..	Gravitation ..	..	..	..	..	72·09	..	..	..	27·91	3·17	1·96	10·23	6·32	3·91	Loss.
10	Jhansi ..	Pumping ..	(8)468·70	·09410	14·13	211·00	17·73	36·28	1·26	5·09	39·64	5·95	4·70	12·60	9·95	2·65	,,
11	Mirzapur ..	Gravitation ..	..	..	..	..	67·10	..	..	..	32·90	1·42	1·35	13·77	13·09	0·68	,,
12	Muttra ..	Pumping ..	(9)317·49	·01587	135·00	185·54	24·89	73·25	0·09	0·25	1·52	4·78	4·70	27·10	26·63	0·47	,,
13	Fyzabad ..	Ditto ..	(10)61·50	·00672	140·91	137·40	41·17	36·13	11·50	5·69	5·51	4·61	4·06	22·92	20·17	2·75	,,
14	Hardwar ..	Ditto ..	..	..	..	178·30	30·61	62·46	0·19	0·50	6·24	6·79	11·20	65·96	108·76	42·80	Profit.
15	Unao ..	Ditto ..	(11)14·42	·00603	167·34	130·00	34·11	32·22	17·74	10·68	5·25	2·87	3·27	13·15	14·98	1·83	,,

(1) Coal 3286·60 tons, fuel oil 115·55 tons and electrical charges Rs. 2,746 for Maithau and Chilli- Int converted to coal and fuel oil 170·35 tons.
(2) Coal 3056·59 tons, fuel oil 10·94 tons, and electrical charges Rs. 89,309 converted to coal and fuel oil 6939·32 tons. Coal consumption includes 2 tons for municipal purposes.
(3) Coal 4134·50 tons and electrical charges Rs. 66,774 converted to coal 4881·14 tons. Coal consumption includes 46·35 tons for municipal purposes.
(4) Pumping done by electric motors. Coal consumed for municipal purposes and workshop 427·85 tons (municipal purposes 351·85 tons and workshop 76 tons).
(5) Includes 7·00 tons for municipal purposes and 1782·60 tons for shortage during transit, etc.
(6) Pumping done by turbines. Wood consumption 40·85 tons (25·95 tons for banking engines and 14·90 tons for workshop).
(7) Coal 1·55 tons used for municipal purposes.
(8) Includes 5·50 tons of coal for municipal purposes.
(9) Fuel oil 1·05 tons and electrical charges Rs. 42,720 converted to fuel oil 316·44 tons. Fuel oil consumption includes 0·26 ton for municipal purposes.
(10) Includes 0·04 ton fuel oil for municipal purposes.
(11) Fuel oil.

APPENDIX

Statement showing initial capital cost, details of income and expendi

Serial no.	Particulars.		Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow
1	Description of plant		Oil engine, steam-power and electricity.	Steam-power oil and electricity.	Steam-power and electricity.	Steam-power and electricity.	Steam-power an electricity.
2	Initial capital cost in lakhs ..	Rs.	11·71	16·24	25·62	14·45	15·16
3	Total cost of works in lakhs ..	,,	35·30	44·08	43·22	36·04	62·90
4	Number of inhabitants drawing their supply from mains.		185,946	157,220	198,447	216,436	201,334
5	Hours of supply daily		10·00	15·00	10·40	16·00	22·00
6	Quantity supplied during year in million.	gallons.	2,070·110	1,983·028	2,377·951	2,900·950	2,145·120
7	Total Horse Power hours per annum .. in million.		1·48	0·95	1·03	1·35	0·70
8	Maximum daily average during any one month in millions.	gallons.	6·407	6·309	7·122	10·127	7·429
9	Average daily supply for the year in million.	,,	5·672	5·433	6·515	7·948	5·877
10	Maximum supply per head per day ..	,,	34·46	40·13	35·89	46·79	36·90
11	Average supply per head per day ..	,,	30·50	34·55	32·83	36·72	29·19
12	Total lift (average)	Feet.	189·00	222·11	171·73	173·69	172·40
13	Quantity supplied during year in million foot gallons.	Foot gallons.	391,251	440,442	408,365	503,866	369,819
14	Fuel consumed	Tons.	3572·50*	10,006·85†	9,065·64‡	..	11,826·35
15	Fuel consumption per million foot gallons.	Lbs.	20·12	50·89	49·73	..	71·63
16	Cost of fuel per ton	Rs.	16·12	12·87	13·68	..	10·90
17	Cost of establishment per million foot gallons.	Annas.	1·64	2·39	2·66	1·84	3·02
18	Cost of fuel per million foot gallon ..	,,	1·94	4·29	4·55	5·08	5·52
19	Cost of oil and waste per million foot gallons.	,,	0·22	0·12	0·13	0·05	0·17
20	Cost of repairs to machinery per million foot gallons.	,,	0·03	0·03	0·06	0·03	1·01
21	Cost of other charges per million foot gallons.	,,	1·83	0·64	1·00	2·42	1·80
22	Total charges per million foot gallons	,,	5·66	7·46	8·40	9·42	11·52
23	Maintenance charges per thousand gallons supplied.	,,	1·07	1·66	1·44	1·64	1·99
24	Interest and sinking fund charges per thousand gallons supplied	,,	0·53	1·26	0·69	0·19	0·41
25	Total (maintenance and interest and sinking fund per thousand gallons supplied).	,,	1·60	2·92	2·13	1·83	2·40
26	Maintenance charges in thousand ..	Rs.	138·62	205·60	214·39	296·87	266·21
27	Interest and sinking fund charges in thousand.	,,	68·01	156·05	102·05	34·52	55·39
28	Total income in thousand	,,	290·73	413·61	447·17	561·36	523·65
29	Profit or loss on maintenance in thousand.	,,	+152·11	+208·01	+232·78	+264·49	+257·44
30	Profit or loss on maintenance and interest and sinking fund in thousand.	,,	+84·10	+51·97	+130·73	+229·97	+202·05
31	Profit or deficit percentage on total cost of works.	,,	+2·38	+1·18	+3·02	+6·38	+3·21

* Coal, fuel oil, and electrical energy converted to coal and fuel oil.
† ditto ditto.
‡ Coal and electrical energy converted into coal,
§ Coal.

No. VIII.

ure for water-works in the United Provinces for the year 1929-30.

Meerut.	Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.
Water and steam-power.	Hydro-electric and oil power.	Steam-power, electricity and gravity.	Gravitation.	Steam power.	Gravitation.	Oil engine and electricity.	Oil engine and electricity.	Electricity.	Oil engine
7·52	4·80	2·47	0·97	0 97	5·98	5·17	9·49	1·97	1·19
8·20	12·66	10·48	4·75	1·94	7·30	6·08	9·94	4·81	1·36
77,711	15,289	17,319	34,092	25,000	38,400	42,615	30,000	9,024	9,000
16·00	24·00	14·62	24·00	8·77	24·00	7·50	9·50	18·00	11·00
425·099	119·283	63·596	110·000	52·879	371·414	241·548	149·096	87·598	41·217
0·27	0·80	0·18	..	..	..	0·24	0·10	0·08	0·03
1·326	0·381	0·258	0·435	0·162	1·047	0·797	0·468	0·355	0·147
1·165	0·327	0·174	0·301	0·145	1·017	0·662	0·408	0·240	0·113
17·06	24·92	14·90	12·76	6·48	27·26	18·70	15·60	39·34	16·33
14·99	21·37	10·06	8·84	5·79	26·50	15·53	13·62	26·59	12·55
140·41	Average 1320·57	Average 562·06	Gravity supply.	211·00	Gravity supply.	185·54	137·40	178·30	130·00
59,688	157,521	35,745	..	11,157	..	44,818	20,486	15,619	5,358
..	..	..	..	468·70‖	..	317·49¶	61·50/	..	14·42$
..	..	..	..	94·10	..	15·87	6·72	..	6·03
..	..	..	..	14·13	..	135·00	140·91	..	167·34
5·03	1·27	3·47	..	5·00	..	4·78	10·15	8·08	7·53
	4·31	15·38	..	10·24	..	14·07	8·90	16·50	7·11
0·16	0·01	0·10	..	0·36	..	0·02	2·83	0·49	3·92
0·43	0·21	0·44	..	1·44	..	0·05	1·40	0·13	2·36
4·12	1·64	1·85	..	11·19	..	0·29	1·36	1·65	1·16
9·74	7·44	21·19	..	28·23	..	19·21	24·64	26·40	22·08
1·37	9·82	11·90	1·30	5·95	0·48	3·57	3·38	4·71	2·87
..	3·87	6·44	1·87	..	0·94	1·21	1·23	2·08	..
1·37	13·69	18·34	3·17	5·95	1·42	4·78	4·61	6·79	2·87
36·34	73·22	47·32	8·93	19·69	11·26	53·83	31·55	25·78	7·40
..	28·33	25·59	12·87	..	21·79	18·35	11·43	11·42	..
34·35	86·15	87·48	13·46	15·54	31·43	70·93	37·83	61·34	8·43
−1·99	+12·93	+40·15	+4·53	−4·15	+20·17	+17·10	+6·28	+35·56	+1·03
−1·99	−15·90	+14·57	−8·34	−4·15	−1·62	−1·25	−5·15	+24·14	+1·03
−0·24	−1·26	+1·39	−1·75	−2·14	−0·22	−0·20	−0·52	+5·02	+0·76

‖ Coal.
¶ Fuel oil and electrical energy converted to fuel oil.
/ Fuel oil.
$ Do.

APPENDIX No. IX.

HYDRO-ELECTRIC SUPPLY.

1929-30.

Particulars.	Mussoorie.	Naini Tal.
1. Total units generated	3,381,106	1,039,220
2. Maximum units for any one day	18,870	4,345
3. Average load K. W.	468	113·75
4. Power factor—		
Maximum	0·95	0·92
Minimum	0·75	0·30
5. Load factor—		
Maximum (monthly)		
Average	0·45	0·68
Minimum		
6. Generating volts—		
Maximum	7,000	3,500
Minimum	6,600	3,500
7. Total hours of running	9,785	8,717·9
8. Total cubic feet of water used	184,709,400	38,301,350
9. Maximum quantity used in any month, cubic feet ..	18,210,600	199,360
10. Minimum ,, ,, ,, ..	12,431,460	63,840
11. Average rate of discharge, cubic feet per diem	506,053	104,935
12. Maximum rate of discharge of pipe line—		
No. 1, cubic feet per second	8·30	Both lines worked together.
No. 2. ,, ,, ...	8·30	
13. Minimum rate of discharge of pipe line—		
No. 1, cubic feet per second	7·30	
No. 2, ,, ,, ...	7·30	
14. Average intake level		8·22
15. Maximum intake level	4,491	11·50
16. Minimum intake level		4·95
17. Total rainfall for the year, inches	103·90	83·04
18. Total cubic feet overflow intake weir (Naini Tal only) (cubic feet).	..	8·39
19. Maximum recorded rainfall for 24 hours, inches ..	6·20	2·92

APPENDIX No. IX(A).

ELECTRIC SUPPLY.

1929-30.

Particulars.	Hardwar.
1. Total units received	365,754
2. Maximum units for any one day	1,180
3. Average load K. W.	43
4. Power factor—	
Maximum	0·85
Minimum	0·80
5. Load factor—	
Maximum (monthly)	Nil.
Average	Nil.
Minimum (monthly)	Nil.
6. Receiving volts—	
Maximum	430
Minimum	400

APPENDIX No. X.

Statement showing current consumed, rate charged and revenue derived.

1929-30.

	Mussoorie.			Naini Tal.			Hardwar.		
	Units.	Rate.	Rs.	Units.	Rate.	Rs.	Units.	Rate.	Rs.
1. For municipal purposes—									
Public lighting ..	170,189 (c)170.956 (d)55,336	Two annas .. Contract rate	*42,643 20,751	95,819	Lump sum ..	21,000	46,900	Three annas pies seven.	10,602
W. S. Pumping ..	676,623	One anna ..	42,288	183,193	Three annas..	34,349	130,386	Two annas ..	16,099
Other purposes ..	461,581	..	..	18,111	Eight annas..	3,776	3,115	Three annas pies seven.	816
2. Sold by meter—									
Lighting	245,200 (c) 326,101	Six annas .. Six annas ..	91,950 1,22,288	197,662	Eight annas..	76,638	(g)43,861 (h)44,233	Six annas .. Four annas ..	19,768 12,297
Heating	110,784 (c) 427,968	One anna .. One anna ..	6,924 26,748	118.803	One anna, pies five.	8,078	..	..	..
Power			..	2,392	Four annas ..	455	65,974	..	6,457
3. Recoveries on rated premises.	26,483 (c) 33,963	Contract rate	8,806 12,736	25,905	Rupees two per mensem per lamp.	8,635	14.031	..	4,121
4. Other receipts.. ..	..	..	1,963 (f)8,028	1,332	Eight annas..	9,431	..	..	1,220
5. Meter rent and miscellaneous.	..	..	6,952 (f)10.570	..	..	9,700	..	..	2,463
6. Total units sold and receipt	(a)2,243,603	..	(b)4,02,647	(e)635,174	..	1,72,062	348,500	..	73,843

(a) Does not include 461,581 units for other purposes.
(b) Cash receipts Rs. 3,17,716 for 1,225. 835 units sold.
* Credit.
(c) For Dehra Dun.
(d) For Dehra Dun road lighting.
(e) Does not include 8,042 units for other purposes allowed free of charge.
(f) For Dehra Dun.
(g) Private.
(h) Railway.

APPENDIX No. XI.

Statement showing number of connections.

1929-30.

—	Mussoorie.		Naini Tal.		Hardwar.	
	Number.	K. W.	Number.	K. W.	Number.	K. W.
1. Private connexions at close of preceding year.	(*a*)4,338	..	1,307	..	419	..
2. Connexions made during the year.	(*b*)240	..	101	..	48	..
3. Metered connexions existing on March 31, 1930.	(*c*)3,529	..	733	..	242	..
4. Municipal lamps existing on March 31, 1930.	(*d*)1,687	..	531	..	485	..
5. Heating points connected on March 31, 1930.	*(*e*)440	..	217	..	..	..
6. Total K. W. connected on March 31, 1930.	..	4,280	..	1,566·86	..	290
7. Peak load for the year..	..	H. E. 760 Diesel 600	..	310	..	80
8. Diversity factor per cent.	..	45%	..	19·78	..	..

NOTE.—Connexions for Dehra Dun included (*a*) 2,494, (*b*) 118, (*c*) 2,612, (*d*) 883,(*e*) 156.
* Power points.

APPENDIX No. XII.

HYDRO-ELECTRIC SUPPLY.

Annual maintenance account.

1929-30.

Particulars of charges.	Mussoorie.	Naini Tal.
I.—Staff charges—	Rs.	Rs.
(*a*) Direction	25,180	5,650
(*b*) Office establishment	24,863	10,886
(*c*) Power station staff	14,130	3,325
(*d*) Sub-station staff	4,427	967
(*e*) Pipe line staff..	..	1,044
(*f*) Overhead line staff	6,698	5,575
(*g*) Auxiliary pump	895	345
(*h*) Contingencies..	3,758	4,691
II.—Materials—		
(*a*) Oils		
(*b*) Lubricants	25,842	1,860
(*c*) Waste		
(*d*) Buildings		
III.—Repairs—		
(*a*) Machinery	43,841	1,249
(*b*) Pipe line	8,560	637
(*c*) Overhead line	5,340	10,753
(*d*) Buildings	556	2,995
IV.—Rents	2,984	1,755
V.—Printing	2,076	157
VI.—Stationery	651	419
VII.—Insurance	1,618	155
VIII.—Total maintenance charges	1,71,419	52,463
IX.—Interest and sinking fund charges	1,86,068	1,42,848
X.—Total annual charges	3,57,487	1,95,311
XI.—Total units generated	33,81,106	10,39,220
XII.—Total units sold	22,43,603	6,35,174
XIII.—Cost per unit generated, annas	1·69	2·99
XIV.—Cost per unit sold, annas	2·55	4·92

APPENDIX No. XII(A).

Electric supply, Hardwar annual maintenance account.

1929-30.

Particulars of charges.	Rs.
I.—Staff charges—	
(*a*) Direction	2,561
(*b*) Office establishment	1,320
(*c*) Sub-station staff	1,300
(*d*) Overhead line staff	2,308
(*e*) Contingencies	..
II.—Cost of electric energy purchased during the year from Irrigation department	40,703
III.—Materials—	
(*a*) Oils	..
(*b*) Lubricants	..
(*c*) Waste	..
(*d*) Buildings	..
IV.—Repairs—	
(*a*) Machinery	..
(*b*) Overhead line (including cost of bulbs)	2,131
(*c*) Buildings	562
V.—Rents	60
VI.—Printing	210
VII.—Stationery	130
VIII.—Insurance	..
IX.—Miscellaneous	3,458
X.—Total maintenance charges	54,743
XI.—Interest and sinking fund charges	14,752
XII.—Total annual charges	69,495
XIII.—Total receipts during the year	73,843
XIV.—Total units purchased	365,754 (units).
XV.—Total units sold	348,500 „
XVI.—Profit during the year	4,348
XVII.—Total loss in transformers and transmission, etc.	17,254 units.
XVIII.—Cost per unit purchased	3·04
XIX.—Cost per unit sold	3·23

APPENDIX No. XIII.

A.—List of projects finally sanctioned during the year 1929-30.

I.—Provincial Works.

		Rs.	
(*a*) *Fair projects*—			
1.	Allahabad Kumbh Mela water-supply	50,065	
2.	Ditto new tube well	17,988	
3.	Ditto electric supply	17,489	
4.	Cawnpore, 4″ demonstration tube well and hand pump ..	933	
5.	Debi Pattan (Gonda) tube well	6,867	
6.	Lucknow Government House sanitary fittings to residence attached to	5,294	
7.	Lucknow Hon'ble Finance Member's residence sanitary fittings	2,591	
8.	Lucknow Ghaziuddin Hyder Canal maintenance	3,960	
			1,05,187
(*b*) *Preliminary propsals*—			
	Nil		Nil
(*c*) *Forecast of costs finally approved*—			
1.	Fatehgarh new reserve police lines latrines, pail depot, etc...	20,000	
2.	Ditto ditto alternative	42,225	
			62,225

II.—Deposit Works.

		Rs.	
(*a*) *Fair projects.*—			
1.	Aligarh water-works compound—drainage	7,644	
2.	Allahabad Civil lines area—two tube wells	41,133	
3.	Allahabad municipal board temporary water-supply, from Magh Mela tube well	1,440	
4.	Bareilly anti-malarial works—completion of outfall ..	18,347	
5.	Bhimtal water-supply	23,197	
6.	Budaun Drainage	89,369	
7.	Fatehpur-Sikri water-supply	48,976	
8.	Hardwar-Jwalapur water-supply (Revised)	1,77,257	
9.	Moradabad flushing, improvement to engine house ..	500	
10.	Muttra-Banjatra route water-supply wells at Jamalpur and Talban	7,372	
11.	Muttra sewage disposal, laying sewage farm and irrigation guls, etc.	7,922	
12.	Muttra additional tube well no. 5 with pumping plant and engine house	55,311	
13.	Muzaffarnagar electric supply	1,04,397	
14.	Rikhikesh Infectious Diseases Hospital	31,350	
15.	Shamli (Muzaffarnagar) Drainage	22,300	
16.	Unao Drainage	1,89,316	
17.	Unao water-supply extension	31,409	
18.	Unao water-supply tube well no. 3	12,855	
			8,70,095
(*b*) *Preliminary proposals.*—			
1.	Dehra Dun Drainage. (Western portion)	3,15,300	
			3,15,300
(*c*) *Forecast of costs.*—			
1.	Aligarh Muslim University area Drainage	96,400	
2.	Haldwani-Banbhulpura Drainage	1,23,198	
3.	Khatauli (Muzaffarnagar) Drainage	1,23,500	
4.	Laldhang village (Bijnor) water-supply improvement to ..	12,400	
5.	Muttra-Deegdarwaza storm water drain	17,600	
			3,73,098

B.—List of projects submitted but not sanctioned during the year 1929-30.

I.—Provincial works.

		Rs.	
(a) Fair projects.—			
1.	Allahabad Magh Mela maintenance, 1930-31	1,302	
2.	Allahabad Kotwali drainage and sanitary fittings	14,133	
3.	Allahabad Alfred Park tube well	14,355	
4.	Cawnpore Government Textile School water-supply ..	13,604	
5.	Etawah Katchehri compound 5 feet masonry well (Revised)	3,786	
6.	Lucknow-Ghaziuddin Hyder Canal anti-malarial and drainage work maintenance	14,000	
7.	Lucknow Government House, Residence of Stenographer, sanitary fittings at—	1,571	
8.	Lucknow Government House, Residence of Electrician, sanitary fittings at—	1,054	
9.	Lucknow Government House, Residence of Indian Aide-de-Camp, sanitary fittings at—	773	
10.	Naini Tal district villages water-supply ..	(a) 38,788 (b) 19,996	
11.	Piran Kaliar (Saharanpur) Mela, 1929-30. Temporary water-supply	2,164	
			1,25,526
(b) Preliminary proposal.—			
	Nil.		Nil.
(c) Forecast of costs.—			
1.	Allahabad—Drainage of insanitary ditch near District Jail ..	11,208	
2.	Lucknow—Ghazi-ud-din Hyder Canal anti-malarial and drainage works extension	2,00,000	
3.	Roorkee North Ganges Canal division tube well	6,250	
			2,17,458

II—Deposit works.

		Rs.	
(a) Fair projects.—			
1.	Aligarh water-supply (Revised)	5,63,245	
2.	Bewar bazar drainage	11,691	
3.	Bewar bazar metalling road pattries	10,023	
4.	Brindaban trial tube well	4,646	
5.	Gokul (Muttra) drainage	59,500	
6.	Gorakhpur flushing drain tube well	12,850	
7.	Haldwani water-supply Improvement	5,943	
8.	Hardwar Bhopatwala town planning	..	
9.	Khurja water-supply and flushing scheme	3,55,894	
10.	Lucknow water-supply reorganization, new filter, supplementary estimate for construction of godown and office, etc...	24,134	
11.	Muttra-Antapara storm water drain	19,294	
12.	Saharanpur drainage, I Instalment. (Revised)	2,05,165	
			12,72,33
(b) Preliminary proposals.—			
	Nil.		Nil.
(c) Forecast of costs.—			
1.	Fatehpur-Sikri mela water-supply	14,800	
2.	Ghazipur water-supply	4,16,605	
3.	Kamalganj drainage	91,548	
4.	Kanauj construction of pacca road and bund	12,300	
5.	Lucknow Improvement Trust trial bore	580	
6.	Moghalsarai drainage	42,424	
7.	Rae Bareli – Salon dispensary tube well	7,000	
8.	Rae Bareli drainage	1,19,789	
			7,05,046

C.—List of projects under preparation with approximate Amount.

I—Provincial Works.

(a) Fair projects.—

		Rs.	
1.	Deva fair water-supply	57,000	57,000

(b) Preliminary proposals.—

Nil. Nil.

(c) Forecast of costs.—

Nil. Nil.

II—Deposit Works.

(a) Fair projects.—

1.	Bahraich Syed Salar fair water-supply..	70,000	
2.	Bahraich town water-supply	2,00,000	
3.	Brindaban Infectious Diseases Hospital	45,496	
4.	Cawnpore sewage farm	5,07,000	
5.	Gorakhpur drainage and anti-malarial works	3,50,000	
6.	Haldwani-Banbhulpura drainage I—Instalment	40,000	
7.	Jhansi water-supply (Revised)	23,15,680	
8.	Kanauj Drainage (Block E)	15,000	
9.	Nimsar drainage and water-supply (Revised)	1,50,000	
			36,92,176

(b) Preliminary proposals.—

1.	Bareilly slaughter-house drainage	75,000	
2.	Cawnpore drainage part VI	2,00,000	
3.	Jaunpur water-supply from river	3,84,000	
			6,59,000

(c) Forecast of costs.—

1.	Agra police lines improvement to water-supply	10,000	
2.	Barabanki drainage	50,000	
3.	Bilsi (Budaun) drainage	75,000	
4.	Kosi drainage	70,000	
5.	Ram Nagar (Naini Tal) drainage	50,000	
6.	Sikandrabad drainage Ganda nala improvement	49,000	
7.	Ditto surface drainage	2,00,000	
			5,04,000

D.—List of projects that have been delayed for want of staff.—

		Rs.	
1.	Atrauli drainage	1,50,000	
2.	Bara Banki drainage	50,000	
3.	Bilsi drainage	75,000	
4.	Brindaban drainage	3,00,000	
5.	Brindaban water-supply..	4,00,000	
6.	Cawnpore drainage, part VI	2,00,000	
7.	Cawnpore sewage	5,67,000	
8.	Gola Gokarannath sacred tank water-supply	11,000	
9.	Hardwar-Harki Pairi improvement	11,00,000	
10.	Jaunpur water-supply from river	3,84,000	
11.	Kosi drainage..	70,000	
12.	Lucknow Canning College drainage and sanitation ..	1,50,000	
13.	Lucknow drainage system: survey of defects and preparation of estimate for their removal	3,50,000	
14.	Meerut drainage	8,00,000	
15.	Nimsar drainage	1,50,000	
16.	Ramnagar drainage	50,000	
17.	Sikandrabad drainage (forecast)	49,000	
			48,56,000

Completion reports of—

1. Allahabad Magh Mela water-supply pumping plant.
2. Fyzabad water-supply.
3. Lucknow sewage pumping station.
4. Lucknow Government house water-supply.

APPENDIX No. XIV.

Revenue derived from sewage farms during the year 1929-30.

—	Agra.	Allahabad.	Dehra Dun.	Lucknow.	Muttra.
1. Area under cultivation in acres.	99·00	237·00	4·19	*685·62	28·28
2. Total rent realized from cultivators Rs.	12,062	23,227	400	† 10,209	369
3. Average rent per acre per annum Rs.	121·85	98·00	95·00	15·00	13·04
4. Quantity of sewage treated in million gallons.	..	987·20	12·23	Not supplied as no meter has been fixed.	45·00
5. Average quantity of sewage consumed per acre per diem in gallons.	..	10,743·30	800·00		9·50
6. Expenditure incurred on the maintenance of the farms. Rs.	..	2,226	Nil.	3,661	1,414
7. Revenue derived .. „	..	‡24,837	400	10,209	369
8. Profit .. .. „	..	22,597	400	6,548	Nil.
9. Loss .. .. „	..	Nil.	Nil.	Nil.	1,045

* Only 178 acres were treated with sullage.
† Only Rs. 7,860 were realized as rent from area supplied with sullage
‡ Includes Rs. 4,862 cost of sullage supplied to Allahabad Agriculture Institute.

APPENDIX No. XV.

Statement showing expenditure on construction works carried out by the Engineering branch of the Public Health department during 1929-30.

Name of works.	Estimated cost.	Total expenditure up to end of March, 1929.	Expenditure incurred during the year.
1.—*Provincial works.*	Rs.	Rs.	Rs.
Agra Dayalbagh tube well	13,329	3,745	5,807
Allahabad Kumbh Mela new tube well ..	17,988	Nil	15,991
Allahabad Magh Mela water-supply pumping water from tube well, 1928-29.	1,250	611	26
Allahabad Magh Mela water-supply maintenance for 1930.	2,423	33	2,064
Allahabad Magh Mela water-supply maintenance for 1929-30.	944	Nil	984
Allahabad Magh Mela water-supply during Kumbh 1930.	2,176	Nil	2,050
Allahabad Magh Mela for 1928-29	12,300	11,305	26
Allahabad Magh Mela for 1929-30	50,065	Nil	51,793
Allahabad Kumbh Mela Electric supply ..	17,489	Nil	15,691
Bareilly Wood Working Institute tube well repairs.	259	72	100
Cawnpore Well Boring Operations division demonstration T. W.	933	Nil	759
Debi Pattan (Gonda) water-supply tube well ..	6,867	Nil	92
Fyzabad experimental tube well	16,637	5,320	3,631
Garhmukteshwar constructing a well near police station.	3,086	1,399	1,169
Lucknow Ghaziuddin Hyder Canal and anti-malarial works drain flushing tube well and pump House.	6,500	2,473	558
Lucknow Ghaziuddin Hyder Canal anti-malarial and drainage works.	5,62,936	4,75,444	69,992
Lucknow Ghaziuddin Hyder Canal anti-malarial and drainage works maintenance.	3,960	Nil	2,057
Lucknow Government House Head Assistant's residence and office sanitary fittings to.	1,950	Nil	1,849
Lucknow Hon'ble Finance Members, residence sanitary fittings.	2,591	Nil	2,448
Najibabad Government High School tube well ..	4,012	Nil	2,560
Piran Kaliar 7″ tube well	9,513	2,017	6,238
Piran Kaliar water-supply	39,837	Nil	5,997
Total ..	7,77,045	5.02,419	1,91,882

APPENDIX No. XV.

Statement showing expenditure on construction works carried out by the Engineering branch of the Public Health department during 1929-30 —(continued).

Name of works.	Estimated cost.	Total expenditure up to end of March, 1929.	Expenditure incurred during the year.
Deposit works.	Rs.	Rs.	Rs.
Ajodhya (Fyzabad) two tube wells	37,112	8,628	4,977
Agra new mechanical filtration plant	2,84,250	68,571	1,27,341
Agra raw water pumping plant extension ..	90,557	15,308	52,315
Aligarh water-supply	7,49,650	Nil	2,83,924
Allahabad Civil Lines two tube wells	41,133	Nil	1,020
Allahabad Magh Mela plant for temporary water-supply to municipality.	1,440	Nil	1,174
Almora water-supply	1,75,342	Nil	6,504
Benares water-supply extension reorganization ..	5,12,255	2,74,614	1,76,403
Bhim Tal (Naini Tal) water-supply section I ..	6,400	Nil	5,814
Brindaban two trial surface percolation wells ..	10,140	60	6,845
Brindaban water-supply experimental tube well ..	9,445	Nil	3,826
Dehra Dun water softening and chlorinating plant	64,851	1,378	48,678
Fatehpur-Sikri water-supply	48,976	1,107	40,059
Garhmukteshwar filling pond behind police station.	2,335	2,159	66
Hardwar Jwalapur water-supply	1,77,257	Nil	1,583
Hathras water-supply 12″ Strainerless tube well no. 2.	23,242	13,534	615
Hathras tube wells nos. 3, 4, and 5	34,800	Nil	517
Jaunpur trial tube well	20,000	4,425	5,102
Jhansi Chirgaon drainage	34,388	Nil	93
Kaimganj drainage	60,415	42,977	9,773
Khurja trial tube well	20,533	540	16,169
Khurja electric supply	1,86,224	Nil	87,020
Kosi water-supply	1,02,132	43,942	26,374
Lucknow two gravel tube wells	53,026	Nil	630

APPENDIX No. XV.

Statement showing expenditure on construction works carried out by the Engineering branch of the Public Health department during 1929-30—(concluded).

Name of works.	Estimated cost.	Total expenditure up to end of March, 1929.	Expenditure incurred during the year.
Deposit works.	Rs.	Rs.	Rs.
Lucknow water-supply extension reorganization ..	9,90,140	52,013	48,837
Lucknow additional mechanical water filtration and sterilization.	3,28,352	5,185	2,29,955
Moradabad flushing improvement	11,504	Nil	7,024
Moradabad flushing scheme repairs to engine foundation.	500	Nil	43
Muttra tube well with masonry cylinder ..	26,984	Nil	921
Muttra additional tube well no. 5	55,311	Nil	2,907
Muttra water-supply alterations to the existing puming plant.	13,016	10,241	1,531
Muttra Banjatra route water-supply	27,728	14,673	1,552
Muttra laying sewage farm and Irrigation guls ..	7,922	1,980	1,973
Muttra sewage disposal	1,83,301	1,44,752	7,162
Muttra sewage disposal additional pumping sets ..	32,697	7,523	22,136
Muttra Bharatpurwali Dharamshala 20 seated Water Flushed Latrine.	7,869	500	Nil.
Muzaffarnagar new Mandi drainage	4,63,447	Nil	44,539
Rae Bareli trial tube well	20,000	12,029	665
Unao water-supply tube well no. 3	12,855	Nil	338
Unao water-supply additional pumping plant ..	31,409	Nil	827
Total ..	49,58,941	5,12,931	12,76,232

APPENDICES

to the

Report of the Director of Public Health, United Provinces.

APPENDIX A.

Annual Report of the Board of Public Health, United Provinces, for the financial year ending March 31, 1930.

DURING the year under report the office of the President was held by Mr. R. Oakden, C.S.I., O.B.E., I.C.S., Senior Member, Board of Revenue.

I worked as Secretary throughout the year in addition to the duties of the Head Assistant to the Director of Public Health.

2. The Hon'ble Justice Pandit Gokarannath Misra, an old and universally respected member of the Board, died on July 5, 1929, and the Board passed a resolution placing on record its sorrow at his untimely death and its appreciation of the great interest taken by him in the work of the Board.

3. A list of the outgoing and incoming members is appended :—

Outgoing members.	*Incoming members.*	
(1) Vacant	Lieut.-Col. H. Stott, O.B.E., M.D., B.S., F.R.C.P., D.P.H., I.M.S., Principal, King George's Medical College, Lucknow.	From April 22, 1929.
(2) Hon'ble Justice Pandit Gokarannath Misra, M.A., LL.B., Lucknow (deceased).	Hony. Lieut. Raja Kali Charan Misra, M.L.C., Bareilly.	From July 23, 1929.
(3) Rai Sahib Raja Harnam Singh Sahib, Chairman, District Board, Bara Banki.	Captain Nawab Muhammad Jamshed Ali Khan, M.B.E., M.L.C., Chairman, District Board, Meerut.	From August 10, 1929.
(4) Babu Sampurnanand Sahib, M.L.C., Jalipa Devi, Benares (resigned in pursuance of the Congress Resolution regarding Council boycott).	Rai Rahadur Lala Mathura Prasad Mehrotra Sahib, B.A., M.L.C., Biswan, (district Sitapur).	From March 7, 1930.

4. Six meetings of the Board were held—three at Lucknow, two at Naini Tal and one at Allahabad.

5. The total amount placed by Government at the disposal of the Board for expenditure on public health works during 1929-30 amounted to Rs. 5,95,951 and was made up as under :—

	Rs.
(1) Grant for special assistance to pilgrim centres (recurring)	70,000

		Rs.
(2) Grant for urban sanitation (recurring) ...		1,50,000
(3) Contribution to municipal boards (non-recurring)		99,000
	Rs.	
(*i*) Grant to Allahabad municipal board towards reinstatement of the tube wells at Daraganj and Thornhill road	12,000	
(*ii*) Grant to Muzaffarnagar municipal board for construction of roads and drains in the New Mandi	40,000	
(*iii*) Grant to Almora municipal board for water-supply scheme	47,000	
(4) Grant for rural sanitation and minor sanitary works (recurring)		2,40,000
Grant for rural sanitation and minor sanitary works (non-recurring)		36,951
(The non-recurring amount was a regrant out of the amount which had lapsed to Government at the close of the year 1927-28 from the allotment for sanitary improvements in rural areas.)		
Total of (1), (2), (3) and (4) ...		5,95,951

Owing to financial stringency Government subsequently suspended expenditure to the amounts of Rs. 90,000 and Rs. 1,00,000 under heads "Urban Sanitation" and "Rural sanitation and minor sanitary works", respectively.

6. The allotments sanctioned by the Board of Public Health during the year under report were :—

(*a*).—**Special assistance to pilgrim centres=Rs 70,000.**

		Rs.
Gonda district ...	For improvement of water-supply at Debi Patan fair...	6,867
To Assistant Director of Public Health, Provincial Hygiene Institute, U. P.	For taking cinema films for exhibition purposes at fairs, etc....	12,000
Piran Kaliar (district Saharanpur).	For water-supply scheme at Piran Kaliar fair ...	30,324
Ditto do, ...	For sanitary arrangements etc., at Piran Kaliar fair ...	3,797

		Rs.
Garhmuktesar (district Meerut).	For a new well near police station (on the pilgrim route)	1,686
Syed Salar fair, Bahraich	Towards fees of the Superintending Engineer, Public Health department, for the preparation of the fair project for the water supply scheme at Syed Salar fair...	1,950
Misrikh (district Sitapur)	For constructing a gul to supply canal water to the sacred tank at Misrikh ...	3,172
Gola Gokarannath (district Kheri).	For Gola Gokarannath tank feeder scheme	10,943
Honorarium (sanctioned by Government in G. O. no. 843/XI—328, dated March 22, 1930) to Mr. E. A. Joel, Stenographer to Secretary, Improvement Trust Committee		150
	Total ...	70,889

Of this amount, sums aggregating Rs. 26,788 being either savings or balances remaining unspent near the close of the year had to be resumed and Rs. 25,899 was transferred to head " Urban Sanitation " for allotments towards the cost of works which were being carried on by the agency of the Public Health Engineering department.

N.B.—It may be mentioned here that according to financial rules grantees are required to draw only as much amount of the sanctioned grants as required for expenditure during a financial year and that only when actually required for disbursement, and that sums not drawn and remaining unspent lapse to Government. Besides, the Board of Public Health have been advised by Government not to make grants in the last few months of a year except under certain restrictions. The Audit department have, however, ruled that funds allotted for public health works which are carried out by the Public Health Engineering department and placed at the disposal of the Executive Engineers and deposited by them by an adjustment entry debiting them to " 33—Public Health " will not lapse at the end of the financial year in case the works remain incomplete.

(*b*) Urban Sanitation (Reserve)=Rs. 1,50,000.

		Rs.
Cawnpore ...	... For sinking a tube well for demonstration purposes in the compound of the office of the Executive Engineer, Well Boring Operations division, Cawnpore ...	933
Muttra ...	... For maintaining a sewage farm	3,338
Gonda ...	... Towards the construction of two meat markets in the municipality	6,988
Lucknow ...	... For lining and dressing a portion of the Ghazi-ud-din Hyder Canal	7,950
Dehra Dun ...	... Towards the construction of an infectious diseases hospital	11,655

		Rs.
Office of Secretary, Board of Public Health.	For fitting a teakwood almirah in the office building to keep files and records ...	225
Agra	For the construction of a trial tube well at Dayalbagh (regrant)	6,115
Fyzabad	For constructing an experimental tube well at Fyzabad water works (regrant) ...	6,700
Reappropriated to head "Travelling allowance to Secretary and his establishment and non-official members"		1,000
Unao	Towards the Unao water supply extension scheme ...	22,132
Fyzabad	For the installation of a water pumping plant at Fyzabad water works	34,000
Budaun	Towards Budaun drainage scheme	13,860
	Total ...	1,14,896

NOTE.—The sum of Rs. 1,14,896 is made up as follows :—

Allotment originally sanctioned by Government under this head	1,50,000
Expenditure suspended by Government to the amount of	90,000
Balance	60,000
Amounts resumed and transferred from heads "Special assistance to pilgrim centres" and "Rural sanitation and minor sanitary works"	54,896
Total ...	1,14,896

(*c*) **Rural sanitation and minor sanitary works=Rs. 2,76,951.**

		Rs.
Gonda district ...	Towards the construction of a bandh in village Umri ...	1,109
Fatehpur-Sikri notified area (district Agra).	Towards water supply scheme	23,884
Meerut district ...	For constructing pucca drains round a number of wells in village Kirthal ...	6,900
Basti town area ...	For the diversion of a new road as part of town improvement scheme (as ordered by Government)	4,800

		Rs.
Village Sidhaur (district Bara Banki).	For a well in the fair area ...	783
To District Magistrates	For small public health works in rural areas	76,618
To District Magistrates...	Regrants made to the extent of the amounts which lapsed to Government on March 31, 1929, to complete small public health works in progress in rural areas ...	52,402
To District Magistrate, Aligarh.	For sinking 4″ pipes in existing wells	2,000
Bhim Tal notified area (district Naini Tal).	For the preparation and execution of the water-supply scheme	6,900
Bulandshahr, Moradabad, Gorakhpur and Gonda.	For experiments with cinchonization in a few selected villages	1,434
Village Chaki (district Jalaun).	For improving drainage ...	1,154
Village Nagla Khurd (district Saharanpur).	For 10 tube wells.. ..	500
Bijnor district ...	For filling up Peeli Nadi ravines (further grant) ...	495
Naini Tal district ...	For special repairs to Salari Parao water pipe line ...	809
Haldwani notified area (district Naini Tal).	Towards the improvement of water-supply	2,830
Village Bhaguwala in Jasmaur estate (district Saharanpur).	For repairs of a well ...	1,000
Village Jasmaur (district Saharanpur).	For the reconstruction of a well... ...	1,000
Pilibhit district ...	For fixing pitcher pumps in certain villages	500
Jamalpur and Talban (district Muttra).	For constructing wells in connexion with the Banjatra route water-supply scheme (further grant)... ...	1,543
Lucknow	Towards anti-tuberculosis league	500
	Total ...	1,87,161

NOTE.—The amount of Rs. 1,87,161 is made up as follows:—

Allotment originally sanctioned by Government under this head	2,76,951

		Rs.
Difference of amounts resumed as not required and of those transferred to head " Urban sanitation "	...	10,210
Total	...	2,87,161
Expenditure suspended by Government to the amount of		1,00,000
Balance	...	1,87,161

(*d*) **Contribution to municipal boards=Rs. 99,000.**

			Rs.
Allahabad ...	...	Towards the construction of two tube wells in the Civil Lines area in connexion with the Allahabad water-works	12,000
Muzaffarnagar	...	For construction of roads and drains in New Mandi ...	40,000
Almora ...	...	For water-supply scheme ...	47,000
		Total ...	99,000

In addition to the above a grant of Rs. 75,000 was sanctioned and paid by Government direct to the municipal board, Benares, towards its water-supply scheme.

7. During the year under report loans were sanctioned by Government for the sanitary projects mentioned below :—

			Rs.
Mussoorie ...	...	Hydro-electric extension scheme	98,500
Allahabad ...	...	(1) Water-works reorganization scheme (Scheme A)	1,09,700
		(2) Purchase of a road roller and tar-boiler ...	30,000
		(3) Renovation of clear water reservoirs at Khusroo-bagh	16,454
Khurja ...	...	(1) Electric supply scheme ...	1,10,000
		(2) Ditto ...	7,309
Meerut ...	...	Electric supply scheme ...	1,00,000
Muzaffarnagar	...	Ditto ...	25,000
Ditto	...	Construction of roads and drains in the New Mandi ...	28,000
Hathras ...	...	Water-supply scheme ...	25,000
Almora ...	...	Ditto ..	50,000

		Rs.
Lucknow	Reorganization of the water distribution system and installation of additional mechanical filters ...	1,74,000
	Total ...	7,73,963

8. Of the schemes discussed by the Board during the year under report, projects and estimates for the works noted below, the cost of which aggregated Rs. 9,49,431, were sanctioned. In addition to these forecasts for certain works were also approved :—

(*a*) *Water-Works.*

		Rs.
Bhowali notified area (district Naini Tal).	Project for the water-supply scheme	1,50,406
Debi Patan fair area (district Gonda).	Estimate for the construction of a tube well at the fair area	6,367
Bhim Tal notified area (district Naini Tal).	Estimate for the improvement of water-supply	23,197
Misrikh town area (district Sitapur).	Estimate for constructing a gul from the Sitapur branch to supply water to the sacred tank at Misrikh ...	3,172
Muttra	Revised project for an additional tube well no. 5 in connexion with the Muttra water supply scheme	55,311
Gola Gokarannath (district Kheri).	Estimate for constructing a gul to supply canal water to the sacred tank at Gola Gokarannath	10,943
Hardwar	Extension of water-supply to Jwalapur... ...	1,77,257
Fatehpur-Sikri notified area (district Agra).	Revised estimate for the Fatehpur Sikri water-supply scheme ...	48,976
Unao	Estimate for the 3rd tube well and for the additional pumping plant in connexion with the water-supply extension scheme	44,264
Salari Parao (district Naini Tal).	Estimate for special repairs to Salari Parao water pipe line	1,309
Haldwani notified area (district Naini Tal).	Estimate for Haldwani water-supply improvement ...	5,660

		Rs.
Allahabad ...	... Project for the construction of two tube wells in the Civil Lines area ...	41,133
Muttra ...	... Project for the construction of two wells at Jamalpur and Talban in connexion with the scheme for the Banjatra route water-supply	7,372
	Total ...	5,75,367

(b) Drainage and Sewerage works.

Lucknow ...	... For lining and dressing a portion of the Ghaziuddin Hyder Canal (revised estimate)	34,948
Budaun ...	... Drainage scheme ...	89,369
Muttra ...	... Sewage disposal scheme laying sewage farm and irrigation guls (original estimate). (Revised estimates subsequently received were also sanctioned) ...	7,926
Unao ...	... Drainage scheme ...	1,89,316
Shamli town area (district Muzaffarnagar).	Nau Kuan drainage scheme ...	22,300
	Total ...	3,43,859

(c) General.

Mahoba (district Hamirpur).	Project for constructing a sarai	11,858
Bareilly ...	... Anti-malarial scheme (completion of outfall of the existing storm water channel)	18,347
	Total ...	30,205
TOTAL OF (*a*), (*b*), AND (*c*)	...	9,49,431

Sanction was also accorded to the preparation of the following schemes by the Superintending Engineer, Public Health department :—

1. Bahraich ... ... Water-supply (fair project).
2. Kamalganj (district Farrukhabad). Drainage (fair project).

3. Gorakhpur ...	Drainage (fair project).
4. Rikhikesh (district Dehra Dun).	Infectious diseases hospital (fair project).
5. Hardwar	Improvement of Har-ki-pairi (fair project)
6. Fatehpur Sikri (district Agra).	Water-supply to Dargah Sheikh Saleim Chishti (Forecast of cost.)
7. Haldwani (district Naini Tal).	Drainage (Banbhulpura). (Fair project).

9. From the above it will be seen that every endeavour was made to utilise the funds placed at the disposal of the Board. It is however regretted that several local bodies had to refund the grants made to them for failing to utilize them within a reasonable time. Cases were also brought to the notice of the Board in which grants made had been utilised improperly or expended on purposes other than those for which funds had been allotted. Great care has now to be exercised by the Board in the matter of sanctioning grants and making payments as on the one hand the proper observance of the financial rules and of the restrictions laid down by the Audit department has to be kept in view while on the other the wastage of public money or its improper use by the grantees has to be guarded against. With this view safeguards such as requiring a programme of funds in all cases of grants exceeding Rs. 5,000 and fixing a time-limit, etc., have been provided.

10. Statements of expenditure incurred on rural sanitation submitted by the Director of Public Health having showed large unspent balances with certain district boards the attention of the commissioners concerned was invited to the matter with a view to the money being utilised early.

11. The subject of the improvement of water-supplies in the rural areas has been receiving the attention of the Public Health department. As owing to difficulties experienced in the working of pumps installed in wells and lack of provision of suitable types of pumps in spite of issue of detailed instructions, grants are now made to such local bodies as give an undertaking to employ mistris to look after them and to maintain them in proper order. A large portion of the allotment under head " Rural sanitation and minor sanitary works " is distributed as grants-in-aid to village panchayats, etc., towards the improvement of wells. Grants are also made for this purpose from the allotment for pilgrim centres. Appreciable grants have lately been made for the improvement of water supplies at the Piran Kaliar, Debi Patan and other small fairs, the sacred tanks at Misrikh and Gola Gokarannath, the Banjatra route in the Muttra district, the Panchkosi in the Benares district and the pilgrim route in Garhwal. A hand pump and a small tube well were erected in the compound of the Well Boring Operations Division's office at Cawnpore for demonstration purposes.

12. The Board accepted the views of the Mechanical Adviser to Government contained in his note no. 5 entitled " Observations on the maintenance of municipal water-works in the United Provinces " and

recommended their adoption to Government. Inspection reports of the Mechanical Adviser to Government on the various water-works were considered by the Board and the defects mentioned brought to the notice of the municipal boards and divisional commissioners concerned.

13. The management of the Lucknow water-works was repeatedly the subject of adverse comments. The rapid filters were worked above their rated capacity as the slow filters had been allowed to fall into disuse. The delay in the duplicating of the rapid filters was due to the loss of the plans in the municipal office. The Board of Public Health was constrained to report the matter to Government with the recommendation that the question of allowing these expensive water-works to remain in incompetent hands should be examined. Government have impressed upon the municipal board the urgent necessity of preventing any breakdown in water-supply in the summer and directed it to take immediate steps to carry out necessary measures for bringing the water-works system into proper condition.

14. The proposal of the municipal board, Allahabad, to carry on a modified scheme in connexion with the reorganization of the distribution system and improvement of water-supply generally, together with the note of the Superintending Engineer, Public Health department, which the Board of Public Health endorsed was submitted to Government who accorded their general approval to the scheme with necessary provisos. The question of the shortage of water in the Allahabad city was brought to the notice of the Board. From the information at their disposal the Board were of opinion that the shortage was due mainly to the failure of the municipal board to control the distribution of water with the result that there was great waste in parts of the area and consequent shortage in other parts and that the best way of tackling the problem was the introduction of meters for private supplies. The matter was reported to Government who discussed the whole question of the water supply at Allahabad with the representatives of the municipal board at a conference held in July.

15. Copies of inspection notes by the Mechanical Adviser to Government on the Benares water-works were forwarded to the municipal board through the divisional commissioner to rectify the defects pointed out by that officer, but, in spite of numerous reminders, no reply as to the action taken was received and the fact had to be brought to the notice of Government.

16. Two trial bores were attempted by the Public Health Engineering department in Jaunpur in connexion with the city water-supply but both failed. The alternative proposal to derive a water supply from Gomti by means of a river side pumping station with filtration plant had therefore to be resorted to and the approval of the Board was accorded to the adoption of this scheme.

17. During the year under report the tube well at the Radhaswami Institute, Dayal Bagh, Agra, for which funds had been provided by the Board of Public Healt was completed and handed over to

the Institute authorities. By skilful arrangement the Executive Engineer enabled a supply of 100 gallons per minute to be made available from this well to the Institute.

18. Funds were provided towards the cost of installing additional water pumping plants at Fyzabad and Unao.

19. Tabulated results of municipal water-supplies for 1928-29 were considered and recorded, the Director of Public Health having taken action where necessary. Test results of Fyzabad, Ajodhya and Piran Kaliar tube wells which were reported to be satisfactory were also recorded.

20. The programme of funds for the execution of the first instalment of the Hardwar drainage scheme was approved and forwarded to Government for early sanction The forecast of cost for the extension of the Har-ki-Pairi scheme was also approved and the Superintending Engineer, Public Health department, was asked to prepare the fair project the first instalment in consultation with the Irrigation department. The Board emphasised the necessity of finishing the work before the next Kumbh mela.

21. The drainage of the Lucknow municipality is very unsatisfactory and the condition of affairs deplorable. A resurvey of the whole drainage system and the preparation of a complete and comprehensive scheme by the Public Health Engineering department is considered very necessary. Board of Public Health approved of the proposals made by the Board's expert technical advisers and ordered the whole correspondence to be forwarded to Government. The question of the reconditioning of all the existing mains and intercepting sewers and the reorganization of the management of the sullage farm on the lines indicated by the Board's technical experts is interdependent on the improvement of the drainage system.

22. The drainage schemes for the towns of Srinagar (district Garhwal) and Gola Gokarannath (district Kheri) had to be dropped owing to prohibitive cost.

23. The drainage scheme for Brindaban is awaiting the decision of the Government of India as to the enhancement of the rates of the pilgrim tax.

24. The attention of the Board was drawn to the pollution of the Ganges water near Sangam at Allahabad. The Director of Public Health, who, it was understood, already had the matter in hand, was asked to submit a report. That officer inspected the sources of complaint in the company of the Assistant Director of Public Health of the range, the Municipal Medical Officer of Health and the Municipal Engineer and reported that no visible pollution of the Ganges took place from either of the sources specially mentioned.

25. The report of the Assistant Director of Public Health (Malariology), United Provinces, detailing the anti-malarial schemes carried out in the United Provinces during 1928 was referred by Government to the Board inviting their recommendations. In view of the fact that these schemes were generally in an experimental

state Board were not in a position to make any very definite recommendations. They, however, thought that all the schemes should be pushed on experimentally and that more money be spent on furthering the cinchonization scheme which was less experimental and had a special importance in view of the established value of quinine.

26. The Board has been allotting funds for the preparation of cinema films on public health subjects to be exhibited at fairs, exhibitions, baby weeks and religious gatherings. A further sum of Rs. 12,000 was granted during the year.

27. The question of an infectious diseases hospital for Indians at Lucknow which had been hanging fire for a long time was considered. Of the two schemes submitted by the municipal board, Board after full discussion accepted the scheme of taking over the Police Hospital, excluding the University bungalows, and sanctioned the preparation of the fair project for additions and alterations to the same. They also undertook to meet half the initial cost of additions and alterations and equipment.

28. With a view to improving the sanitation of the rural areas, a district health service has been introduced in 28 districts and has met with a good deal of approval. As owing to financial stringency it was not possible for Government to supply funds to extend it to the remaining 20 districts of the province during the last three years, the Director of Public Health suggested a temporary reappropriation of funds to the extent of Rs. 1,52,687 out of the recurring grant of Rs. 2,40,000 at the disposal of the Board of Public Health under head "Rural sanitation and minor sanitary works" during 1930-31, in order to provide the service in eight more districts. After a long discussion, the Board sanctioned a grant of Rs. 60,000 for one year only and on condition that the money was only to be spent in districts where the district boards contributed one-third of the annual cost.

29. The model dairy buildings constructed in Lucknow some time ago out of the Government grant made for the purpose had remained vacant. An offer for occupying the same on certain conditions having been made to the Improvement Trust the same was approved by the Board.

30. A sum of Rs. 55,500 used to be paid annually to the Sadabarat Fund through the Board of Public Health. With a view to introducing a district health service in a modified form to suit the local requirements this grant was discontinued and the money was utilised partly in staffing the district with a public health personnel and conservancy staff for the pilgrim route and partly in providing for expenditure on Sadabarat Fund dispensaries on the route. Additional funds were provided by the Public Health department for the appointment of sweepers.

31. The last annual reports of the Director of Public Health and the Superintending Engineer, Public Health department, copies of which were supplied to members, were recorded with an expression of satisfaction at the work done by the two branches of the Public Health department.

32. As a result of the Village Sanitation Amendment Act, 1929, district officers are now concerned only with the repairs of wells and with no other question of sanitation in villages. The Government, therefore, decided to discontinue the submission of annual reports on the working of the Village Sanitation Act by the district officers to the Board with effect from financial year 1929-30.

MOHIUDDIN, KHAN SAHIB,

Secretary, Board of Public Health,
United Provinces.

LUCKNOW :
April 26, 1930.

APPENDIX B.

Statement showing expenditure incurred during 1929 out of the grants made by the Board of Public Health, United Provinces for the improvement of rural sanitation in previous years.

Number.	Division.	District.	Grants made in 1929.	Balance in hand on December 31, 1928.	Total.	Expenditure in 1929.	Balance in hand on December 31, 1929.
			Rs.	Rs.	Rs.	Rs.	Rs.
1	Meerut.	Dehra Dun ..	..	..	..	..	..
2		Saharanpur ..	..	..	..	..	..
3		Muzaffarnagar ..	..	600	600	..	600
4		Meerut ..	..	..	..	..	..
5		Bulandshahr ..	..	..	..	..	..
6	Agra.	Aligarh ..	..	5	5	(a)5	..
7		Muttra ..	..	7,382	7,382	1,553	5,829
8		Agra ..	..	..	..	..	..
9		Mainpuri ..	..	..	..	..	..
10		Etah	..	..	..	..	..
11	Rohilkhand.	Bareilly ..	..	..	..	..	..
12		Bijnor ..	..	..	..	..	..
13		Budaun ..	..	600	600	(a)600	..
14		Moradabad ..	..	..	..	..	..
15		Shahjahanpur ..	..	..	..	..	..
16		Pilibhit ..	..	1,386	1,386	865	521
17	Allahabad.	Farrukhabad ..	..	..	..	..	..
18		Etawah ..	..	..	..	..	..
19		Cawnpore ..	..	..	..	..	..
20		Fatehpur ..	..	..	..	..	..
21		Allahabad ..	..	..	..	..	..
22	Jhansi.	Jhansi ..	..	..	..	..	..
23		Jalaun ..	..	..	..	..	..
24		Hamirpur ..	..	..	..	..	..
25		Banda ..	..	..	..	..	..
26	Benares.	Benares ..	..	25,265	25,265	15,081	10,184
27		Mirzapur ..	..	..	..	..	..
28		Jaunpur ..	..	..	..	..	..
29		Ghazipur ..	..	..	..	..	..
30		Ballia ..	..	..	..	..	..
31	Gorakhpur.	Gorakhpur ..	..	15,258	15,258	4,517	10,741
32		Basti ..	..	..	..	..	..
33		Azamgarh ..	..	..	..	..	..
34	Kumaun.	Naini Tal ..	..	..	..	..	..
35		Almora ..	..	..	..	..	..
36		Garhwal ..	..	..	..	..	..
37	Lucknow.	Lucknow ..	..	..	..	..	..
38		Unao ..	..	..	..	..	..
39		Rae Bareli ..	..	..	..	..	..
40		Sitapur ..	..	..	..	..	..
41		Hardoi ..	..	..	..	..	..
42		Kheri ..	..	423	423	(a)423	..
43	Fyzabad.	Fyzabad ..	..	5,443	5,443	2,705	2,738
44		Gonda ..	..	..	..	..	..
45		Bahraich ..	..	10,800	10,800	10,778	22
46		Sultanpur ..	..	..	..	..	..
47		Partabgarh ..	..	..	..	..	..
48		Bara Banki ..	..	1,873	1,873	1,779	94
		Total ...	..	69,035	69,035	38,306	30,729

(a) Refunded into the Government treasury.

APPENDIX C.

Statement showing protective effects of anti-plague inoculations in the United Provinces during the year 1929.

Name of village or town.	Population.	Number of inoculated persons.	Number of uninoculated persons.	Deaths among inoculated persons.	Deaths among uninoculated persons.
DEHRA DUN.					
Majri, P. S. Dehra	39,540	192	39,348	..	3
SAHARANPUR.					
Deoband	17,891	155	17,736	..	33
Gangoh	11,843	269	11,574	..	61
Salerupur	3,000	12	2,988	..	15
Hardwar	30,707	88	30,619	..	1
District (Suburbs)	62,261	1,515	60,746	..	4
MUZAFFARNAGAR.					
Megha Kheri	1,545	116	1,429	..	58
Garhi Noabad	1,696	45	1,651	..	8
Ladwa	916	137	779	..	32
Sohanjni	1,781	172	1,609	..	59
MEERUT.					
Sardhana	9,524	1,045	8,479	..	162
Tandi	8,197	48	8,149	..	11
BULANDSHAHR.					
Jahangirabad	10,279	14	10,265	..	7
MUTTRA.					
Chaubara	472	51	421	..	..
Salempur	1,375	51	1,324	..	..
Lodhai	701	65	636	..	..
Farah	2,112	109	2,003	..	..
Muttra municipality	48,724	14	48,710	..	..
AGRA.					
Agra municipality	163,750	22	163,728	..	..
BAREILLY.					
Bareilly municipality ..	119,175	2,003	117,172	..	37
Baheri	4,671	1,781	2,890	2	43
BIJNOR.					
Seohara	9,434	392	9,042	..	31
BUDAUN.					
Saraira	500	100	400	..	20
Bisauli	4,000	500	3,500	..	15

APPENDIX C.

Statement showing protective effects of anti-plague inoculations in the United Provinces during the year 1929—(continued).

Name of village or town.	Population.	Number of inoculated persons.	Number of uninoculated persons.	Deaths among inoculated persons.	Deaths among uninoculated persons.
MORADABAD.					
Palanpur	376	175	201	..	4
Bahpur	327	149	178	..	6
Mangupura	348	176	172	..	7
Sidhal	323	183	140	..	9
SHAHJAHANPUR.					
Jalalabad	5,941	264	5,677	1	122
PILIBHIT.					
Barkhera	1,555	323	1,232	1	80
Kasganja	1,113	279	834	..	24
FATEHPUR.					
Jairampur Gingaula	313	45	268	..	9
ALLAHABAD.					
Mohabbatpur Painsa	828	86	742	..	25
BENARES.					
Dandupur	1,614	188	1,426	..	99
Kamalpur	1,360	290	1,070	..	43
Baragaon	3,099	295	2,804	..	71
Dharera	4,261	75	4,186	..	26
JAUNPUR.					
Udaichandpur	1,487	241	1,246	..	10
Dipatepur	783	51	732	..	14
GHAZIPUR.					
Jakhinia Kalan	300	150	150	..	13
Haurahi	100	55	45	..	9
Basila	300	107	193	..	12
BALLIA.					
Jam	1,895	861	1,034	..	37
Kasaundar	1,441	402	1,039	..	13
Sultanpur	631	483	148	..	7
Tari Baragaon	2,552	753	1,799	..	13
Ratsand	4,283	418	3,865	..	42
Garwar	1,665	468	1,197	..	45
Maniar	6,801	347	6,454	..	288

APPENDIX C.

Statement showing protective effects of anti-plague inoculations in the United Provinces during the year 1929—(continued).

Name of village or town.	Population.	Number of inoculated persons.	Number of uninoculated persons.	Deaths among inoculated persons.	Deaths among uninoculated persons.
GORAKHPUR.					
Pipra	200	157	43	..	12
Barai	300	64	236	1	31
Marwatia	305	80	225	..	6
Deswapar	250	73	177	..	13
Badhyia Phulwaria	342	203	139	..	28
Barari	613	114	499	..	8
Pipradaula Kadam . ..	1,000	263	737	..	15
Deoria	2,491	769	1,722	..	66
BASTI.					
Pauli	983	591	392	..	9
Rikhia	500	125	375	..	6
Hardi	700	175	525	..	11
Hathinas	250	100	150	..	2
Bishanpur	350	100	250	..	4
Amari	400	125	275	..	9
Jamdu Shahi	1,500	303	1,197	1	20
Saltanwa	1,200	108	1,092	..	20
Barighat	200	68	132	..	8
Munderwa	100	49	51	..	3
Pakri Shukul	600	64	536	..	26
Manjharia	150	80	70	..	7
Bhadesharnath	150	52	98	..	5
Chainpurwa	150	60	90	..	5
Krishna Bhagwati	150	80	70	..	4
AZAMGARH.					
Behar	1,000	205	795	..	3
Nizamabad	1,003	300	703	..	5
Katghar Lalganj	2,494	41	2,453	..	1
NAINI TAL.					
Haldwani	8,536	1,077	7459	..	22
LUCKNOW.					
Utraithia	622	121	501	..	6
Mohanlalganj	3,111	17	3,094	..	4
Behta Hasanpur	724	14	710	..	4
Banthara	1,229	43	1,186	..	..
Adampur Naubasta	1,331	16	1,315	..	12
Saspan	2,247	4	2,243	..	7
UNAO.					
Behar	1,597	505	1,092	..	32
Bhauli	3,462	350	3,112	..	27
Kusumbhi..	1,038	110	928	..	28
Mavia and Sahla	779	132	647	..	23

APPENDIX C.

Statement showing protective effects of anti-plague inoculations in the United Provinces during the year 1929—(concluded).

Name of village or town.	Population.	Number of inoculated persons.	Number of uninoculated persons.	Deaths among inoculated persons.	Deaths among uninoculated persons.
RAE BARELI.					
Ahrwa Bhawani	298	45	253	..	5
Pura Din Singh	1,783	43	1,740	..	1
Singhpur-Pursa Sarabjit-ka-Bazar	803	162	641	..	5
SITAPUR.					
Khairabad	11,522	689	10,833	..	137
HARDOI.					
Haryawan	1,240	56	1,184	..	24
Todarpur	1,005	236	769	..	29
Beniganj	2,096	34	2,062	..	26
KHERI.					
Aurangabad	3,037	180	2,857	..	5
Bagrethi	822	222	600	..	6
Bhogipur	156	53	103	..	2
FYZABAD.					
Goshainganj	1,818	121	1,697	..	24
Sarthua	347	98	249	..	9
Suthirpara	702	125	577	..	9
GONDA.					
Dhanauli	888	275	613	..	11
Paras	2,041	350	1,691	..	7
BAHRAICH.					
Nanpara	10,924	785	10,139	..	124
SULTANPUR.					
Piperpur	1,772	397	1,375	..	16
PARTABGARH.					
Bhadri	1,244	71	1,173	..	8
Rajapur	884	29	855	..	..
Aghia	388	71	317	..	7
Kunda	1,724	86	1,638	..	8
Sajauli	619	73	546	..	6
BARA BANKI.					
Ichauli	4,055	248	3,807	..	105
Tekur	338	30	308	..	2
Total ..	690,353	26,977	663,376	6	2,696

APPEN

Summary of the work done during 1929 by the public health personnel

Serial number.	Name of district.	Number of days on tour.		Number of villages visited.	Number of villages visited for epidemics.	Number of villages where improvements were made on the advice of Public Health staff.	Verification of births and deaths.		Number of plague inoculations done.	Number of cholera inoculations done.
		District Medical Officer of Health.	Assistant Medical Officer of Health.				Number of entries checked.	Percentage of omissions discovered.		
1	2	3	4	5	6	7	8	9	10	11
1	Gorakhpur ..	250	†553	3,157	1,868	471	8,821	5·6	10,152	978
2	Basti	212	†330	2,736	1,663	266	3 056	12·6	9,420	615
3	Azamgarh ..	191	†446	2,483	2,099	54	3,023	2·2	28,149	1,745
4	Fyzabad ..	195	235	2,516	1,613	55	4,507	7·0	9,208	5,629
5	Gonda ..	179	†367	2,712	1,380	88	4,285	14·8	2,598	(b)11,839
6	Jaunpur ..	268	291	1,951	483	331	7,275	8·9	6,216	1,299
7	Ghazipur ..	187	220	2,444	1,461	88	13,165	3·9	11,224	4,504
8	Ballia ..	197	198	(a)1,814	1,073	163	3,203	4·7	12,162	4,335
9	Benares ..	203	231	1,324	616	550	17,758	3·5	4,185	1,621
10	Bahraich ..	166	210	(a)2,075	358	636	7,072	10·5	1,685	3,054
11	Sultanpur ..	114	204	2.257	433	908	14,915	·2	397	1,801
12	Partabgarh ..	234	161	2,119	1,140	557	4,302	3·5	650	1,457
13	Bara Banki ..	190	209	1,069	618	40	2,604	16·0	3,096	3,315
14	Mirzapur ..	196	176	1,508	440	211	33,047	4·8	..	3,821
15	Allahabad ..	147	†359	2,394	756	127	4,115	4·5	1,264	871
16	Moradabad ..	175	212	1,821	424	297	17,577	2·9	5,264	637
17	Bulandshahr ..	196	151	1,189	284	175	9,677	1·8	14	1,198
18	Lucknow ..	214	189	(a)2,269	344	101	14,458	·9	335	738
19	Unao ..	163	160	1,194	98	158	4,010	3·8	2,494	145
20	Rae Bareli ..	194	207	(a)2,097	806	1,200	2,282	2·8	930	445
21	Sitapur ..	147	162	871	637	147	4,864	1·8	2,023	82
22	Hardoi ..	169	171	(a)2,199	244	134	7,426	6·9	1,970	439
23	Kheri ..	217	212	970	395	485	2,888	10·3	1,179	146
24	Fatehpur ..	182	178	717	179	150	10,066	7·9	513	1,996
25	Muttra ..	113	205	(a)1,293	241	72	5,795	5·5	276	1,120
26	Muzaffarnagar ..	146	139	923	164	87	11,909	7·1	5,237	434
27	Naini Tal ..	199	160	1,052	90	156	1,448	1·2	626	643
28	Garhwal* ..	34	180	528	184	148	1,972	2·3	..	1,007
	Total ..	5,078	6,566	49,682	20,091	7,855	225,520	5·6	121,267	55,91

* From April 1, 1929.

† There are three assistant medical officers of health in the Gorakhpur district and two in each of the districts of Basti, Azamgarh, Gonda and Allahabad. The number of days they were on tour has been shown collectively in column 4.

(*a*) The number exceeds the total number of villages in the district as many villages were inspected by the district medical officers of health, assistant medical officers of health and sanitary inspectors separately, and therefore such villages have been counted as 3 instead of 1.

(*b*) Includes 7,338 anti-cholera inoculations performed in famine camps by the public health staff as well as by the medical officers deputed by the Inspector-General of Civil Hospitals, United Provinces.

X D.

districts where the district health service has been established.

Number of village aiders trained.			Number of first aid dispensaries.		Number of factories inspected.	Hygiene Publicity work.		Number of dais trained in maternity and child welfare.	Number of villages in which village aid scheme has been introduced.	Number of schools visited.	Number of scholars examined
School boys.	Government servants (e.g., chowkidars, patwaris and subordinates of the Co-operative department) and school teachers.	Member of the general public.	Opened during 1929.	Total up to December 31, 1929.		Number of magic lantern demonstrations given.	Number of lectures delivered.				
12	13	14	15	16	17	18	19	20	21	22	23
58	279	..	16	27	4	44	2,395	41	25	135	13,219
303	180	88	..	..	..	4	1,833	89	53	103	5,556
,997	902	..	278	298	..	15	2,586	272	339	134	7,200
33	160	61	86	92	(c)	4	1,454	(d)73	46	51	2,970
360	554	366	11	11	..	27	966	139	(e)1,023	..	..
760	739	219	6	6	(c)	26	1,974	189	118	480	17,980
634	914	212	79	85	..	30	2,157	616	102	165	10,205
703	1,170	245	25	45	..	9	1,402	424	45	34	5,731
140	148	105	..	8	7	5	916	516	16	..	..
135	18	200	33	36	3	11	2,135	207	66	82	3,881
528	296	243	80	80	..	15	1,625	40	(f)90	72	4,608
735	400	116	74	77	3	75	830	152	(g)105	99	8,600
114	164	..	4	38	2	20	1,879	..	20	286	4.048
811	534	250	3	19	..	12	582	74	(h)98	94	5,976
566	468	224	61	67	..	22	2,761	364	37	35	2,032
147	412	96	13	39	2	83	2,036	151	88	103	4,499
.	344	262	24	24	..	88	946	202	92	81	4,273
575	539	153	44	46	..	12	1,031	71	(i)65	37	2,693
.	140	170	33	37	..	20	263	123	74	80	5,046
58	210	25	29	34	..	25	479	40	29	..	..
299	401	180	6	8	..	50	955	151	147	54	4,281
989	386	43	20	21	..	2	478	43	53	162	7,949
,188	965	115	13	16	1	10	1.155	94	77	51	2,596
548	265	10	47	48	1	33	1,076	26	48	31	1,419
..	355	213	4	7	5	30	797	110	(j)42	57	4,174
298	205	..	14	14	..	38	911	303	82	51	3,491
130	378	465	22	22	2	22	1,058	127	84	59	2,022
.	12	2	..	..	..	..	23	..	..	21	1,065
,109	11,538	4,063	1,025	1,205	30	732	36,703	4,637	3,064	2,557	1,35,514

(c) There is no factory in this district.

(d) In addition 136 dais were trained by vaccinators.

(e) The scheme is in full operation in 10 villages and partially in 1,013 villages.

(f) Full scheme in 15 villages and part scheme in 75 villages.

(g) Full scheme in 15 villages and part scheme in 90 villages.

(h) The scheme is in full operation in 19 villages and partially in 79 villages.

(i) Full in 37 villages and part scheme in 28.

(j) Full in 5 villages and part in 37.

Note.—Information not received from the districts shown blank in columns 22 and 23.

STATISTICAL STATEMENTS

(Vital Statistics)

Paragraphs 3, 5, 6, 7 and 8 of Section V.] ANNUAL

Births *registered in the districts of the*

1	2	3			4		
Number.	District.	Population according to census of 1921.			Number of births registered.		
		Male.	Female.	Total.	Male.	Female.	Total.
	MEERUT DIVISION.						
1	Dehra Dun ..	128,176	84,067	**212,243**	3,009	2,774	**5,783**
2	Saharanpur ..	515,908	421,563	**937,471**	22,432	20,011	**42,443**
3	Muzaffarnagar ..	434,307	359,958	**794,265**	18,027	15,670	**33,697**
4	Meerut	809,994	689,080	**1,499,074**	31,837	27,753	**59,590**
5	Bulandshahr ..	562,529	503,990	**1,066,519**	24,246	21,924	**46,170**
	AGRA DIVISION.						
6	Aligarh	575,379	486,366	**1,061,745**	22,853	19,982	**42,835**
7	Muttra	341,150	277,988	**619,138**	12,450	10,972	**23,422**
8	Agra	508,298	415,857	**924,155**	21,467	18,994	**40,461**
9	Mainpuri	411,981	336,046	**748,027**	13,618	11,105	**24,723**
10	Etah	449,162	380,598	**829,760**	15,405	13,781	**29,186**
	ROHILKHAND DIVISION.						
11	Bareilly	544,885	468,990	**1,013,875**	22,219	19,887	**42,106**
12	Bijnor	389,643	350,539	**740,182**	17,594	15,575	**33,169**
13	Budaun	527,823	447,524	**975,347**	20,131	18,243	**38,374**
14	Moradabad ..	639,022	559,631	**1,198,653**	29,537	27,089	**56,626**
15	Shahjahanpur ..	452,837	386,278	**839,115**	17,705	16,131	**33,836**
16	Pilibhit	229,130	202,471	**431,601**	8,897	8,067	**16,964**
	ALLAHABAD DIVISION.						
17	Farrukhabad ..	469,009	387,624	**856,633**	16,771	15,149	**31,920**
18	Etawah	404,323	329,209	**733,532**	14,726	13,172	**27,898**
19	Cawnpore	637,319	511,345	**1,148,664**	17,329	14,763	**32,092**
20	Fatehpur	341,527	310,865	**652,392**	11,348	10,224	**21,572**
21	Allahabad	722,188	682,257	**1,404,445**	22,774	19,945	**42,719**
	JHANSI DIVISION.						
22	Jhansi	315,590	290,909	**606,499**	14,102	12,860	**26,962**
23	Jalaun	213,384	192,055	**405,439**	8,050	7,263	**15,313**
24	Hamirpur	237,103	228,220	**465,323**	9,828	8,773	**18,601**
25	Banda	300,930	287,106	**588,036**	10,008	8,483	**18,491**
	BENARES DIVISION.						
26	Benares	487,165	464,866	**952,031**	18,404	17,440	**35,844**
27	Mirzapur	361,635	362,548	**724,183**	13,717	12,762	**26,479**
28	Jaunpur	574,480	580,625	**1,155,105**	18,623	15,810	**34,433**
29	Ghazipur	399,163	382,407	**781,570**	13,579	12,077	**25,656**
30	Ballia	426,520	404,489	**831,009**	12,926	11,092	**24,018**
	GORAKHPUR DIVISION.						
31	Gorakhpur.. ..	1,658,592	1,608,238	**3,266,830**	52,908	49,071	**101,979**
32	Basti	984,741	940,487	**1,925,228**	29,898	26,520	**56,418**
33	Azamgarh	775,866	752,146	**1,528,012**	24,372	22,015	**46,387**
	KUMAUN DIVISION.						
34	Naini Tal	160,798	116,077	**276,875**	4,007	3,613	**7,620**
35	Almora	265,253	265,085	**530,338**	11,344	11,138	**22,482**
36	Garhwal	232,863	252,323	**485,186**	10,923	10,703	**21,626**
	LUCKNOW DIVISION.						
37	Lucknow	392,559	331,785	**724,344**	14,110	13,006	**27,116**
38	Unao	433,613	385,515	**819,128**	12,285	10,719	**23,004**
39	Rae Bareli	474,742	461,661	**936,403**	12,935	10,742	**23,677**
40	Sitapur	581,655	507,826	**1,089,481**	17,903	15,581	**33,484**
41	Hardoi	586,166	498,244	**1,084,410**	17,322	15,162	**32,484**
42	Kheri	485,177	428,298	**913,475**	15,965	13,780	**29,745**
	FYZABAD DIVISION.						
43	Fyzabad	588,888	583,687	**1,172,575**	17,827	15,695	**33,522**
44	Gonda	752,896	720,202	**1,473,098**	17,467	14,783	**32,250**
45	Bahraich	554,548	510,829	**1,065,377**	17,349	15,089	**32,438**
46	Sultanpur	494,593	509,319	**1,003,912**	15,825	13,540	**29,365**
47	Partabgarh.. ..	417,339	437,791	**855,130**	13,205	11,067	**24,272**
48	Bara Banki ..	536,896	493,058	**1,029,954**	15,024	13,450	**28,474**
	Total for the Province..	23,787,745	21,588,042	**45,375,787**	824,281	733,445	**1,557,726**

FORM No. I.

United Provinces during the year 1929.

5			6	7	8	9			10
Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.			Number.
Male.	Female.	Total.				Male.	Female.	Total.	
14·18	13·07	**27·25**	108·47	4·69	..	14·27	12·53	**26·80**	1
23·93	21·34	**45·27**	112·10	3·34	..	22·65	19·95	**42·60**	2
22·69	19·73	**42·42**	115·04	17·81	..	20·57	17·71	**38·28**	3
21·24	18·51	**39·75**	114·71	15·24	..	21·35	18·58	**39·93**	4
22·73	20·56	**43·29**	110·59	17·20	..	22·37	19·68	**42·05**	5
21·52	18·82	**40·34**	114·36	14·93	..	22·48	20·99	**43·47**	6
20·11	17·72	**37·83**	113·47	14·54	..	17·49	15·12	**32·61**	7
23·23	20·55	**43·78**	113·01	16·55	..	22·50	20·43	**42·93**	8
18·20	14·85	**33·05**	122·62	15·78	..	16·05	13·52	**29·57**	9
18·56	16·61	**35·17**	111·78	12·46	..	17·16	15·02	**32·18**	10
21·92	19·61	**41·53**	111·72	10·62	..	23·50	21·38	**44·88**	11
23·77	21·04	**44·81**	112·96	10·03	..	25·34	22·91	**48·25**	12
20·64	18·70	**39·34**	110·34	15·89	..	21·39	19·57	**40·96**	13
24·64	22·60	**47·24**	109·03	16·91	..	24·91	22·69	**47·60**	14
21·10	19·22	**40·32**	109·76	8·91	..	23·18	21·08	**44·26**	15
20·61	18·69	**39·30**	110·28	..	5·61	23·13	20·92	**44·05**	16
19·58	17·68	**37·26**	110·71	12·68	..	20·48	18·39	**38·87**	17
20·07	17·96	**38·03**	111·80	17·32	..	18·43	16·21	**34·64**	18
15·09	12·85	**27·94**	117·38	4·36	..	16·27	13·97	**30·24**	19
17·39	15·67	**33·06**	110·99	16·11	..	16·53	14·51	**31·04**	20
16·22	14·20	**30·42**	114·19	12·03	..	16·75	14·92	**31·67**	21
23·25	21·20	**44·45**	109·66	12·30	..	23·57	21·43	**45·00**	22
19·86	17·91	**37·77**	110·83	18·32	..	18·93	16·94	**35·87**	23
21·12	18·85	**39·97**	112·02	6·27	..	22·12	19·84	**41·96**	24
17·02	14·42	**31·44**	117·98	13·55	..	17·35	14·92	**32·27**	25
19·33	18·32	**37·65**	105·53	6·76	..	20·01	18·47	**38·48**	26
18·94	17·62	**36·56**	107·48	13·60	..	19·77	18·30	**38·07**	27
16·12	13·69	**29·81**	117·79	6·93	..	15·21	13·13	**28·34**	28
17·37	15·45	**32·82**	112·44	5·78	..	16·28	14·55	**30·83**	29
15·55	13·35	**28·90**	116·53	5·85	..	16·41	14·18	**30·59**	30
16·20	15·02	**31·22**	107·82	12·20	..	16·66	15·26	**31·92**	31
15·53	13·77	**29·30**	112·74	8·13	..	16·83	15·05	**31·88**	32
15·95	14·41	**30·36**	110·71	4·61	..	16·79	15·36	**32·15**	33
14·47	13·05	**27·52**	110·90	..	6·04	15·94	14·36	**30·30**	34
21·39	21·00	**42·39**	101·84	16·33	..	21·56	20·73	**42·29**	35
22·51	22·06	**44·57**	102·05	3·30	..	21·29	20·76	**42·05**	36
19·48	17·95	**37·43**	108·49	..	4·68	20·53	19·00	**39·53**	37
15·00	13·08	**28·08**	114·61	8·53	..	16·03	13·82	**29·85**	38
13·81	11·47	**25·28**	120·41	8·57	..	13·23	11·30	**24·53**	39
16·43	14·30	**30·73**	114·90	9·89	..	19·32	17·23	**36·55**	40
15·97	13·98	**29·95**	114·25	9·86	..	18·39	16·48	**34·87**	41
17·48	15·08	**32·56**	115·85	3·90	..	18·32	15·97	**34·29**	42
15·20	13·39	**28·59**	113·58	3·83	..	16·08	14·12	**30·20**	43
11·86	10·03	**21·89**	118·16	6·63	..	14·52	12·29	**26·81**	44
16·28	14·16	**30·44**	114·97	3·74	..	17·23	15·03	**32·26**	45
15·76	13·49	**29·25**	116·81	3·19	..	16·70	14·44	**31·14**	46
15·44	12·94	**28·38**	119·30	7·76	..	15·60	13·30	**28·90**	47
14·59	13·06	**27·65**	111·70	6·05	..	17·05	14·98	**32·03**	48
18·17	16·16	**34·33**	112·38	10·07	..	18·68	16·64	**35·32**	

Births *and* **deaths** *registered in the districts*

1	2	3	4	5			6		7		
Number.	District.	Area in square miles.	Average population per square mile.	Population (according to census of 1921).			Births.		Number of deaths registered.		
				Male.	Female.	Total.	Total number.	Birth rate per 1,000 of population.	Male.	Female.	Total.
	MEERUT DIVISION.										
1	Dehra Dun ..	1,190	178	128,176	84,067	**212,243**	5,783	27·25	2,617	2,172	**4,789**
2	Saharanpur ..	2,135	439	515,908	421,563	**937,471**	42,443	45·27	15,431	14,502	**29,933**
3	Muzaffarnagar ..	1,673	475	434,307	359,958	**794,265**	33,697	42·42	10,321	9,382	**19,703**
4	Meerut ..	2,344	639	809,994	689,080	**1,499,074**	59,590	39·75	19,466	17,281	**36,747**
5	Bulandshahr ..	1,906	559	562,529	503,990	**1,066,519**	46,170	43·29	14,703	13,122	**27,825**
	AGRA DIVISION.										
6	Aligarh	1,946	546	575,379	486,366	**1,061,745**	42,835	40·34	14,310	12,668	**26,978**
7	Muttra	1,450	427	341,150	277,988	**619,138**	23,422	37·83	7,801	6,619	**14,420**
8	Agra	1,855	498	508,298	415,857	**924,155**	40,461	43·78	13,475	11,691	**25,166**
9	Mainpuri ..	1,674	447	411,981	336,046	**748,027**	24,723	33·05	7,280	5,636	**12,916**
10	Etah	1,729	480	449,162	380,598	**829,760**	29,186	35·17	10,306	8,538	**18,844**
	ROHILKHAND DIVISION.										
11	Bareilly	1,579	642	544,885	468,990	**1,013,875**	42,106	41·53	16,618	14,724	**31,342**
12	Bijnor	1,879	394	389,643	350,539	**740,182**	33,169	44·81	13,365	12,379	**25,744**
13	Budaun	2,010	485	527,823	447,524	**975,347**	38,374	39·34	12,285	10,588	**22,873**
14	Moradabad ..	2,285	524	639,022	559,631	**1,198,653**	56,626	47·24	18,709	17,643	**36,352**
15	Shahjahanpur ..	1,726	486	452,837	386,278	**839,115**	33,836	40·32	14,107	12,251	**26,358**
16	Pilibhit	1,350	320	229,130	202,471	**431,601**	16,964	39·30	10,482	8,901	**19,383**
	ALLAHABAD DIVISION.										
17	Farrukhabad ..	1,683	509	469,009	387,624	**856,633**	31,920	37·26	11,259	9,799	**21,058**
18	Etawah	1,691	434	404,323	329,209	**733,532**	27,898	38·03	8,223	6,972	**15,195**
19	Cawnpore ..	2,372	484	637,319	511,345	**1,148,664**	32,092	27·94	14,568	12,520	**27,088**
20	Fatehpur ..	1,642	397	341,527	310,865	**652,392**	21,572	33·06	6,086	4,973	**11,059**
21	Allahabad ..	2,858	491	722,188	682,257	**1,404,445**	42,719	30·42	13,927	11,906	**25,835**
	JHANSI DIVISION.										
22	Jhansi	3,634	167	315,590	290,909	**606,499**	26,962	44·45	10,082	9,418	**19,500**
23	Jalaun	1,549	262	213,384	192,055	**405,439**	15,313	37·77	4,187	3,701	**7,888**
24	Hamirpur ..	2,435	191	237,103	228,220	**465,323**	18,601	39·97	5,837	5,191	**11,028**
25	Banda	2,822	208	300,930	287,106	**588,036**	18,491	31·44	5,754	4,769	**10,523**
	BENARES DIVISION.										
26	Benares	1,097	868	487,165	464,866	**952,031**	35,844	37·65	15,278	14,127	**29,405**
27	Mirzapur ..	5,233	138	361,635	362,548	**724,183**	26,479	36·56	8,717	7,911	**16,628**
28	Jaunpur	1,550	745	574,480	580,625	**1,155,105**	34,433	29·81	14,401	12,033	**26,434**
29	Ghazipur ..	1,303	600	399,163	382,407	**781,570**	25,656	32·82	10,709	10,424	**21,133**
30	Ballia	1,244	668	426,520	404,489	**831,009**	24,018	28·90	9,930	9,229	**19,159**
	GORAKHPUR DIVISION.										
31	Gorakhpur ..	4,528	721	1,658,592	1,608,238	**3,266,830**	101,979	31·22	33,308	28,838	**62,146**
32	Basti	2,802	687	984,741	940,487	**1,925,228**	56,418	29·30	21,134	19,631	**40,765**
33	Azamgarh ..	2,214	690	775,866	752,146	**1,528,012**	46,387	30·36	19,862	19,482	**39,344**
	KUMAUN DIVISION.										
34	Naini Tal ..	2,721	102	160,798	116,077	**276,875**	7,620	27·52	4,955	4,337	**9,292**
35	Almora	5,372	99	265,253	265,085	**530,338**	22,482	42·39	7,016	6,806	**13,822**
36	Garhwal	5,629	88	232,863	252,323	**485,186**	21,626	44·57	7,579	7,595	**15,174**
	LUCKNOW DIVISION.										
37	Lucknow ..	967	749	392,559	331,785	**724,344**	27,116	37·43	15,321	15,179	**30,500**
38	Unao	1,787	458	433,613	385,515	**819,128**	23,004	28·08	8,779	7,232	**16,011**
39	Rae Bareli ..	1,745	537	474,742	461,661	**936,403**	23,677	25·28	8,595	7,055	**15,650**
40	Sitapur	2,250	484	581,655	507,826	**1,089,481**	33,484	30·73	12,309	10,394	**22,703**
41	Hardoi	2,232	486	586,166	498,244	**1,084,410**	32,484	29·95	11,813	9,978	**21,791**
42	Kheri	2,976	307	485,177	428,298	**913,475**	29,745	32·56	14,566	11,618	**26,184**
	FYZABAD DIVISION.										
43	Fyzabad ..	1,731	677	588,888	583,687	**1,172,575**	33,522	28·59	15,333	13,696	**29,029**
44	Gonda	2,809	524	752,896	720,202	**1,473,098**	32,250	21·89	12,097	10,377	**22,474**
45	Bahraich ..	2,645	403	554,548	510,829	**1,065,377**	32,438	30·44	15,218	13,230	**28,448**
46	Sultanpur ..	1,713	586	494,593	509,319	**1,003,912**	29,365	29·25	13,996	12,169	**26,165**
47	Partabgarh ..	1,443	593	417,339	437,791	**855,130**	24,272	28·38	9,566	8,066	**17,632**
48	Bara Banki ..	1,759	585	536,896	493,058	**1,029,954**	28,474	27·65	12,039	10,211	**22,250**
	Total for the Province	107,167	423	23,787,745	21,588,042	**45,375,787**	1,557,726	34·33	583,720	516,964	**1,100,684**

NOTE.—Those born dead are not included

FORM No. II.

of the United Provinces during the year 1929.

8	9											10			11
	Deaths per 1,000 of population from—											Mean ratio of deaths per 1,000 during previous five years.			
									All causes.						
Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	Male.	Female.	Total.	Male.	Female.	Total.	Number.
120·49	·23	·06	·13	14·59	1·23	3·08	·35	2·88	20·42	25·84	**22·56**	20·36	26·14	**22·65**	1
106·41	·10	·12	2·49	25 99	·39	·81	·26	1·76	29·91	34·40	**31·93**	31·55	35·38	**33·28**	2
110·01	·05	·23	3·86	19·74	·15	·17	·20	·39	23·76	26·06	**24·81**	26·30	28·24	**27·28**	3
112·64	·07	·59	·17	21·95	·18	·79	·25	·51	24·03	25·08	**24·51**	29·90	33·39	**31·50**	4
112·05	·19	1·20	·01	22·55	·36	·75	·34	·69	26·14	26·04	**26·09**	33·04	36·67	**34·94**	5
112·96	·33	·61	..	20·06	·58	·65	·39	2·77	24·87	26·05	**25·41**	27·54	29·80	**28·58**	6
117·86	·33	1·17	..	17·22	·71	1·34	·47	2·04	22·87	23·81	**23·29**	22·54	24·51	**23·42**	7
115·26	·12	1·11	..	18·66	·56	2·57	·62	3·58	26·51	28·11	**27·23**	26·21	28·13	**27·13**	8
129·17	·04	·25	..	15·65	·03	·07	·44	·77	17·67	16·77	**17·27**	25·52	23·64	**24·68**	9
120·71	·09	1·35	·79	17·38	·32	·34	·43	2·00	22·94	22·43	**22.71**	23·55	22·70	**23·16**	10
112·86	1·28	·18	·26	25·50	·14	·93	·55	2·06	30·50	31·39	**30·91**	29·84	30·82	**30·31**	11
107·96	·39	1·43	1·07	25·48	·42	·48	·47	5·03	34·50	35·31	**34·78**	33·65	33·92	**33·80**	12
116·03	·10	·19	·34	20 90	·22	·31	·51	·88	23·27	23·66	**23·45**	28·26	29·25	**28·72**	13
106·04	·22	·58	·51	24·50	·80	1 68	·38	1 65	29·28	31·53	**30·33**	32·48	34·96	**33 65**	14
115·15	1·85	·26	·25	24·11	·18	·77	·57	3·42	31·15	31·71	**31·41**	31·86	32·42	**32·12**	15
117·76	6·49	·20	·26	32·72	·37	1·49	·68	2·68	45·75	43·96	**44·91**	33·17	32·40	**32 86**	16
114·90	·09	·06	·21	18·23	·31	1·04	·54	4·13	24·00	25·28	**24 58**	31·33	31·76	**31·53**	17
117·94	·02	·18	..	14·50	·19	·46	·38	4·98	20·34	21·18	**20·71**	24·88	24·97	**24·95**	18
116·36	·82	·17	..	15·46	·34	3·10	·46	3·22	22·86	24·48	**23·58**	22·40	23.31	**22·78**	19
122·38	·56	·06	·86	10·61	·13	·25	·59	4·66	17·82	16·00	**16·95**	17·95	16·28	**17·16**	20
116·97	1·02	·14	·29	11·28	·28	1·02	·41	3·95	19·28	17 45	**18·39**	22·25	19·38	**20·86**	21
107·05	2·73	·06	..	22·14	·33	·89	·69	5·29	31·95	32·37	**32·15**	30·95	29·79	**30 39**	22
113·13	·56	·15	..	13·27	·12	1·19	·36	3·79	19·62	19·27	**19·45**	24·74	23·16	**23·97**	23
112·44	·65	..	..	16·46	·07	5·24	·63	·64	24·62	22·75	**23·70**	30·65	27·60	**29·16**	24
120·65	·81	·04	..	12·71	·06	·18	·54	3·54	19·12	16·61	**17·89**	24·33	20·73	**22·57**	25
108·15	1·37	·16	·62	18·44	1·25	2·40	·63	6·01	31·36	30·39	**30·89**	29·02	27·47	**28·26**	26
110·19	1·12	·04	..	15·96	·33	·25	·52	4·74	24·10	21·82	**22 96**	27·01	23·41	**25·21**	27
119·68	2·75	·14	·61	14·54	·12	·22	·54	3 95	25·07	20·72	**22.88**	23·11	18·11	**20·60**	28
102·73	3·80	·25	5·61	13·99	·12	·16	·49	2·59	26·83	27·26	**27·04**	25·51	24·60	**25·06**	29
107·59	3·50	·18	3·86	11·54	·41	·15	·57	2·83	23·28	22·82	**23·05**	22·01	19·77	**20·92**	30
115·50	1·31	·03	·83	14·28	·09	·12	·45	1·90	20·08	17·93	**19·02**	20·20	17·71	**18·97**	31
107·66	1·50	·02	1·89	13·95	·03	·07	·28	3·42	21·46	20·87	**21·17**	23·16	21·69	**22·44**	32
101·95	1·87	·15	5·27	14·74	·15	·21	·54	2.68	25·00	25·90	**25·75**	27.19	25·86	**26·58**	33
114·25	·31	·07	·08	29·55	·62	1·53	·35	1·04	30·81	37·35	**33·56**	28·53	34·10	**30·87**	34
103·08	·09	·06	..	22·02	1·44	1·07	·37	1·00	26·45	25·67	**26·06**	24·04	23·58	**23·81**	35
99·79	·92	·05	..	24·39	4·33	·78	·33	·46	32·55	30 10	**31·27**	29·36	26·76	**28·01**	36
100·93	·29	·64	·22	24·99	1·48	4·94	·55	8·99	39 03	45 75	**42·11**	26·74	28·37	**27·48**	37
121·39	·30	·14	·43	16·02	·09	·20	·40	1 95	20·25	18·76	**19·55**	21 86	19·85	**20·92**	38
121·83	·64	·05	·22	13·72	·07	·21	·50	1·28	18·10	15·28	**16·71**	20·64	16·22	**17·62**	39
118·42	·20	·03	·59	17·51	·10	·11	·51	1·77	21·16	20·47	**20·84**	23·50	22·96	**23·25**	40
118·39	·83	19	·52	16·03	·12	·14	·46	1·80	20 15	20·03	**20·09**	23·45	22·63	**23·07**	41
125·37	1·56	·02	·24	24·29	·07	17	·47	1·83	30·02	27·12	**28·66**	25·11	23·58	**24·39**	42
111·95	3·00	·15	1·15	16·40	·29	·42	·47	2·87	26·04	23·46	**24·76**	25·27	22·82	**24·05**	43
116·57	1·70	·01	·10	11·52	·04	·18	·51	1·21	16·07	14·41	**15·26**	16·97	14·75	**15·89**	44
115·03	1·06	..	·22	20·83	·09	·12	·47	3·90	27·44	25·90	**26·70**	21·51	19·70	**20·64**	45
115·01	1·80	·02	·03	20·10	·23	·16	·49	3·23	28·30	23·89	**26·06**	27·51	22·92	**25·18**	46
118·60	2·89	·05	·27	14·60	·02	·05	·43	2·30	22·92	18·42	**20·62**	22·64	17·57	**20·04**	47
117·90	·99	·02	·87	16·99	·10	·20	·50	1·93	22·42	20·71	**21·60**	23·37	21·62	**22·53**	48
112·91	1·12	·26	·83	17·86	·33	·74	·46	2·66	24·54	23·95	**24·26**	25·43	24·49	**24·98**	

in this or any other statements.

Paragraph 17 of Section V.] ANNUAL

Deaths registered in the districts of the United

1	2					
Number.	District.	January.	February.	March.	April.	May.
	MEERUT DIVISION.					
1	Dehra Dun	371	365	333	397	643
2	Saharanpur	2,166	2,121	3,095	3,594	4,264
3	Muzaffarnagar	1,375	1,517	2,388	2,555	2,449
4	Meerut	2,568	2,227	2,298	3,084	4,675
5	Bulandshahr	1,709	1,541	1,614	2,545	3,271
	AGRA DIVISION.					
6	Aligarh	1,798	1,950	1,862	2,965	3,301
7	Muttra	826	932	974	1,536	1,650
8	Agra	1,710	1,742	2,086	2,870	3,038
9	Mainpuri	1,038	757	913	1,156	1,356
10	Etah	1,172	1,406	1,441	2,334	2,315
	ROHILKHAND DIVISION.					
11	Bareilly	3,058	2,171	2,118	2,443	2,692
12	Bijnor	2,345	1,843	2,041	2,803	2,943
13	Budaun	1,748	1,418	1,747	2,539	2,340
14	Moradabad	2,967	2,570	2,661	3,767	3,750
15	Shahjahanpur	2,337	1,959	1,669	2,137	2,856
16	Pilibhit	1,529	1,222	1,180	1,313	1,883
	ALLAHABAD DIVISION.					
17	Farrukhabad	1,829	1,363	1,658	1,976	2,415
18	Etawah	1,151	888	1,158	1,470	1,518
19	Cawnpore	1,882	1,615	1,967	2,993	3,179
20	Fatehpur..	758	695	824	1,145	1,098
21	Allahabad	1,787	1,763	1,743	2,478	3,181
	JHANSI DIVISION.					
22	Jhansi	1,281	1,026	1,134	1,209	1,458
23	Jalaun	450	531	373	461	675
24	Hamirpur	663	627	607	578	795
25	Banda	676	632	582	594	671
	BENARES DIVISION.					
26	Benares	1,581	1,671	1,971	2,288	2,713
27	Mirzapur..	1,023	1,022	1,061	1,435	1,748
28	Jaunpur	1,774	1,687	1,310	2,438	3,426
29	Ghazipur..	1,567	1,991	2,207	1,744	1,545
30	Ballia	1,486	1,675	2,031	1,290	1,849
	GORAKHPUR DIVISION.					
31	Gorakhpur	5,238	4,477	4,556	4,715	6,051
32	Basti	3,773	3,850	3,539	3,346	3,802
33	Azamgarh	3,361	4,334	4,499	3,167	3,195
	KUMAUN DIVISION.					
34	Naini Tal	1,015	899	771	926	953
35	Almora	780	919	989	1.287	2,138
36	Garhwal	871	875	959	1,220	2,153
	LUCKNOW DIVISION.					
37	Lucknow..	1,768	1,651	1,984	2,959	3,480
38	Unao	954	1,358	1,189	1,296	1,633
39	Rae Bareli	1,238	1,105	1,151	1,396	1,820
40	Sitapur	2,127	1,929	1,908	2,506	2,362
41	Hardoi	1,796	1,615	1,457	1,735	1,897
42	Kheri	2,787	2,765	2,512	2,481	2,666
	FYZABAD DIVISION.					
43	Fyzabad	2,041	1,870	1,853	2,187	2,972
44	Gonda	2,086	1,629	1,829	2,129	2,289
45	Bahraich..	3,226	3,366	3,091	2,678	2,479
46	Sultanpur	1,637	1,779	1,875	2,754	3,989
47	Partabgarh	1,190	1,034	1,128	1,664	2,777
48	Bara Banki	1,599	1,641	1,827	2,294	1,985
	Total for the Province ..	**84,112**	**80,023**	**84,163**	**100,877**	**118,338**
	Ratio of deaths per 1,000 of population.	**1·85**	**1·76**	**1·85**	**2·22**	**2·61**

FORM No. III.

Provinces during **each month** *of the year* 1929.

3							4	5
June.	July.	August.	September.	October.	November.	December	Total deaths registered during the year.	Number.
538	377	374	395	297	363	336	**4,789**	1
2,994	1,901	1,655	2,016	1,676	2,017	2,434	**29,933**	2
1,881	1,436	1,130	1,070	1,081	1,270	1,551	**19,703**	3
4,804	2,853	2,667	2,585	2,687	2,424	3,875	**36,747**	4
3,114	2,323	2,257	2,464	2,014	1,949	3,024	**27,825**	5
2,883	2,023	1,919	2,177	2,244	1,945	1,911	**26,978**	6
1,475	917	1,073	1,476	1,105	1,226	1,230	**14,420**	7
2,338	1,584	1,777	2,031	1,954	1,730	2,306	**25,166**	8
1,239	989	1,107	1,086	967	785	1,523	**12,916**	9
2,133	1,721	1,380	1,463	1,171	1,178	1,130	**18,844**	10
2,106	2,012	2,368	3,248	3,332	2,881	2,913	**31,342**	11
2,566	1,781	1,617	1,840	2,050	1,778	2,137	**25,744**	12
1,874	1,802	1,773	2,191	2,036	1,251	2,154	**22,873**	13
3,302	2,742	2,308	3,154	3,365	2,703	3,063	**36,352**	14
2,089	1,850	2,059	2,653	2,714	1,925	2,110	**26,358**	15
1,003	785	1,588	2,307	2,682	1,913	1,978	**19,383**	16
1,854	1,792	1,669	1,788	1,729	1,414	1,571	**21,058**	17
1,417	1,133	1,198	1,258	1,403	1,126	1,475	**15,195**	18
2,442	2,260	2,172	2,280	2,171	2,176	1,951	**27,088**	19
1,064	922	786	972	1,007	813	975	**11,059**	20
2,311	2,164	2,030	2,413	2,093	1,963	1,907	**25,833**	21
1,653	1,694	2,102	1,968	2,067	1,997	1,911	**19,500**	22
673	720	858	710	858	760	819	**7,888**	23
984	873	931	1,062	1,256	1,388	1,264	**11,028**	24
1,045	1,047	768	997	1,017	1,367	1,127	**10,523**	25
2,659	2,768	3,163	3,223	2,584	2,629	2,155	**29,405**	26
1,223	1,681	1,624	1,554	1,436	1,614	1,207	**16,628**	27
2,782	2,472	2,694	2,379	2,018	1,706	1,748	**26,434**	28
1,752	2,192	2,027	1,963	1,612	1,374	1,159	**21,133**	29
1,803	2,295	1,876	1,360	1,474	827	1,193	**19,159**	30
4,976	6,100	6,039	5,197	4,793	4,995	5,009	**62,146**	31
3,745	3,275	2,853	2,053	3,638	3,668	3,223	**40,765**	32
3,166	3,602	3,200	3,224	2,705	2,530	2,361	**39,344**	33
765	536	545	675	668	760	779	**9,292**	34
1,699	1,543	1,248	789	755	876	799	**13,822**	35
2,218	1,795	1,585	890	1,046	752	810	**15,174**	36
2,744	1,969	2,889	3,202	3,015	2,617	2,222	**30,500**	37
1,594	1,501	1,301	1,211	1,516	1,200	1,258	**16,011**	38
1,252	1,142	1,145	1,392	1.289	1,263	1,457	**15,650**	39
1,625	1,721	1,583	1,774	1,724	1,559	1,885	**22,703**	40
1,642	1,729	2,219	2,409	1,912	1,724	1,656	**21,791**	41
1,401	1,971	1,854	2,069	1,845	1,900	1,933	**26,184**	42
2,818	2,589	2,335	2,236	2,514	2,697	2,917	**29,029**	43
1,756	1,728	2,170	1,653	1,888	1,781	1,536	**22,474**	44
1,739	1,743	1,884	1,895	2,204	1,710	2,433	**28,448**	45
2,263	2,114	2,019	1,921	2,192	1,844	1,778	**26,165**	46
1,695	1,537	1,369	1,452	1,229	1,283	1,274	**17,632**	47
1,899	2,239	1,877	1,804	1,425	1,955	1,705	**22,250**	48
98,998	**89,943**	**89,065**	**91,929**	**90,458**	**83,606**	**89,172**	**1,100,684**	
2·18	**1·98**	**1·96**	**2·02**	**1·99**	**1·84**	**1·96**	**24·26**	

ANNUAL

Deaths registered **according to age** *in the districts*

1	2							
Number.	District.	Not exceeding one month.						Total.
		Male.			Female.			
		Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	
	MEERUT DIVISION.							
1	Dehra Dun	126	77	203	87	67	154	357
2	Saharanpur	814	702	1,516	811	668	1,479	2,995
3	Muzaffarnagar ...	382	399	781	333	325	658	1,439
4	Meerut	854	754	1,608	841	642	1,483	3,091
5	Bulandshahr	715	516	1,231	617	530	1,147	2,378
	AGRA DIVISION.							
6	Aligarh	926	488	1,414	679	363	1,042	2,456
7	Muttra	339	271	610	276	227	503	1,113
8	Agra	737	566	1,303	575	478	1,053	2,356
9	Mainpuri	507	256	763	454	231	685	1,448
10	Etah	593	333	926	519	281	800	1,726
	ROHILKHAND DIVISION.							
11	Bareilly	1,154	587	1,741	1,038	414	1,452	3,193
12	Bijnor	1,031	506	1,537	886	483	1,369	2,906
13	Budaun	958	514	1,472	785	397	1,182	2,654
14	Moradabad	1,261	790	2,051	1,156	780	1,936	3,987
15	Shahjahanpur ...	1,115	412	1,527	938	332	1,270	2,797
16	Pilibhit	694	307	1,001	583	208	791	1,792
	ALLAHABAD DIVISION.							
17	Farrukhabad	1,315	393	1,708	1,044	341	1,385	3,093
18	Etawah	867	399	1,266	707	332	1,039	2,305
19	Cawnpore	852	420	1,272	696	383	1,079	2,351
20	Fatehpur	666	285	951	520	225	745	1,696
21	Allahabad	1,254	711	1,965	1,038	467	1,505	3,470
	JHANSI DIVISION.							
22	Jhansi	973	337	1,310	796	335	1,131	2,441
23	Jalaun	348	201	549	289	181	470	1,019
24	Hamirpur	521	224	745	466	187	653	1,398
25	Banda	446	230	676	371	162	533	1,209
	BENARES DIVISION.							
26	Benares	1,110	771	1,881	877	654	1,531	3,412
27	Mirzapur	840	423	1,263	775	327	1,102	2,365
28	Jaunpur	928	594	1,522	696	407	1,103	2,625
29	Ghazipur	821	283	1,104	690	192	882	1,986
30	Ballia	879	285	1,164	650	211	861	2,025
	GORAKHPUR DIVISION.							
31	Gorakhpur	2,003	1,398	3,401	1,505	1,144	2,649	6,050
32	Basti	790	1,704	2,494	597	1,468	2,065	4,559
33	Azamgarh	1,229	598	1,827	960	507	1,467	3,294
	KUMAUN DIVISION.							
34	Naini Tal	215	135	350	202	111	313	663
35	Almora	221	202	423	152	164	316	739
36	Garhwal	257	221	478	219	207	426	904
	LUCKNOW DIVISION.							
37	Lucknow	1,084	696	1,780	901	622	1,523	3,303
38	Unao	569	318	887	460	251	711	1,598
39	Rae Bareli	441	241	682	367	203	570	1,252
40	Sitapur	731	354	1,085	602	296	898	1,983
41	Hardoi	768	385	1,153	630	338	968	2,121
42	Kheri	698	328	1,026	531	262	793	1,819
	FYZABAD DIVISION.							
43	Fyzabad	888	577	1,465	764	481	1,245	2,710
44	Gonda	519	343	862	462	288	750	1,612
45	Bahraich	1,106	498	1,604	1,018	415	1,433	3,037
46	Sultanpur	1,063	512	1,575	795	365	1,160	2,735
47	Partabgarh	578	320	898	446	243	689	1,587
48	Bara Banki	790	314	1,104	643	235	878	1,982
	Total for the Province ...	37,976	22,178	60,154	31,447	18,430	49,877	110,031
	Population	...	...	...	...	...	...	...
	Ratio per 1,000 living ...	...	...	...	...	...	...	...

FORM No. IV.

of the United Provinces during the year 1929.

3									4	
Under one year.									1 and under 5 years.	
Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total.				
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
206	187	393	161	120	281	570	461	1,031	346	345
1,277	1,150	2,427	1,468	1,357	2,825	4,261	3,986	8,247	2,957	2,631
889	826	1,715	1,010	809	1,819	2,680	2,293	4,973	2,004	1,619
2,016	1,768	3,784	2,309	1,949	4,258	5,933	5,200	11,133	4,700	3,889
1,645	1,403	3,048	1,500	1,290	2,790	4,376	3,840	8,216	3,909	3,262
1,140	1,015	2,155	1,262	1,136	2,398	3,816	3,193	7,009	3,740	3,065
645	513	1,158	649	500	1,149	1,904	1,516	3,420	1,693	1,432
1,510	1,245	2,755	1,100	887	1,987	3,913	3,185	7,098	2,896	2,555
570	437	1,007	494	332	826	1,827	1,454	3,281	1,180	879
741	636	1,377	852	678	1,530	2,519	2,114	4,633	2,485	1,879
1,252	1,246	2,498	1,138	1,049	2,187	4,131	3,747	7,878	4,091	3,840
1,048	889	1,937	1,162	1,013	2,175	3,747	3,271	7,018	3,544	3,214
970	866	1,836	1,086	950	2,036	3,528	2,998	6,526	2,947	2,500
1,724	1,522	3,246	1,778	1,627	3,405	5,553	5,085	10,638	4,657	4,424
995	856	1,851	1,156	1,032	2,188	3,678	3,158	6,836	3,364	3,058
607	543	1,150	615	488	1,103	2,223	1,822	4,045	2,194	2,094
860	653	1,513	927	742	1,669	3,495	2,780	6,275	2,313	1,987
722	617	1,339	647	501	1,148	2,635	2,157	4,792	1,219	1,025
1,231	936	2,167	1,172	962	2,134	3,675	2,977	6,652	3,601	3,103
466	372	838	442	335	777	1,859	1,452	3,311	880	737
1,056	790	1,846	841	751	1,592	3,862	3,046	6,908	2,281	2,060
821	801	1,622	618	560	1,178	2,749	2,492	5,241	1,731	1,648
385	311	696	312	263	575	1,246	1,044	2,290	610	511
481	400	881	343	323	666	1,569	1,376	2,945	965	880
389	311	700	288	210	498	1,353	1,054	2,407	808	743
1,371	1,119	2,490	907	760	1,667	4,159	3,410	7,569	2,268	2,226
819	580	1,399	449	376	825	2,531	2,058	4,589	1,448	1,490
992	740	1,732	741	580	1,321	3,255	2,423	5,678	2,025	1,913
469	394	863	468	339	807	2,041	1,615	3,656	1,722	1,851
379	284	663	257	176	433	1,800	1,321	3,121	1,436	1,288
2,288	1,731	4,019	1,481	1,090	2,571	7,170	5,470	12,640	5,781	5,586
1,375	1,110	2,485	781	697	1,478	4,650	3,872	8,522	3,773	3,832
1,154	961	2,115	660	573	1,233	3,641	3,001	6,642	3,447	3,512
380	366	746	309	289	598	1,039	968	2,007	788	769
682	653	1,335	620	593	1,213	1,725	1,562	3,287	1,632	1,602
721	679	1,400	850	752	1,602	2,049	1,857	3,906	1,807	1,692
1,059	1,029	2,088	1,237	1,206	2,443	4,076	3,758	7,834	3,371	3,355
587	494	1,081	669	539	1,208	2,143	1,744	3,887	1,967	1,654
527	362	889	439	308	747	1,648	1,240	2,888	1,688	1,358
814	690	1,504	831	732	1,563	2,730	2,320	5,050	2,899	2,539
780	680	1,460	881	772	1,653	2,814	2,420	5,234	2,856	2,548
616	510	1,126	839	687	1,526	2,481	1,990	4,471	3,390	2,900
920	777	1,697	863	607	1,470	3,248	2,629	5,877	3,084	2,913
568	495	1,063	574	502	1,076	2,004	1,747	3,751	2,325	2,095
821	666	1,487	533	436	969	2,958	2,535	5,493	3,319	2,968
737	650	1,387	759	666	1,425	3,071	2,476	5,547	2,909	2,738
732	558	1,290	652	504	1,156	2,282	1,751	4,033	1,703	1,535
553	417	970	670	538	1,208	2,327	1,833	4,160	2,951	2,505
42,990	36,238	79,228	39,800	33,586	73,386	142,944	119,701	262,645	119,704	108,249
...	...	...	...	...	...	714,286	674,414	1,388,700	2,023,596	2,098,014
...	...	...	...	...	...	200·12	177·49	189·13	59·15	51·59

Deaths registered **according to age** *in the districts*

1	2	5		6		7		8	
Number.	District.	5 and under 10 years.		10 and under 15 years.		15 and under 20 years.		20 and under 30 years.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
	MEERUT DIVISION.								
1	Dehra Dun ...	87	79	65	89	105	146	216	257
2	Saharanpur ...	717	703	674	679	614	813	1,091	1,370
3	Muzaffarnagar ...	548	558	494	553	388	465	671	843
4	Meerut	861	694	457	478	428	556	910	1,291
5	Bulandshahr ...	622	481	310	282	318	368	779	1,066
	AGRA DIVISION.								
6	Aligarh ...	781	649	480	381	389	562	837	1,012
7	Muttra	423	286	233	198	247	277	508	652
8	Agra	687	515	357	361	366	550	809	1,166
9	Mainpuri ...	306	227	238	168	263	277	659	646
10	Etah	596	459	412	349	319	455	718	808
	ROHILKHAND DIVISION.								
11	Bareilly	697	556	396	365	410	464	1,075	1,195
12	Bijnor	587	570	343	371	384	430	855	1,072
13	Budaun	388	296	268	239	302	362	676	897
14	Moradabad ..	845	727	452	453	419	547	1,016	1,422
15	Shahjahanpur ...	678	578	405	337	386	373	834	802
16	Pilibhit	749	577	348	268	320	282	916	914
	ALLAHABAD DIVISION.								
17	Farrukhabad ...	300	255	247	276	266	338	641	910
18	Etawah	242	225	210	190	210	279	583	696
19	Cawnpore .	602	562	360	386	362	547	985	1,138
20	Fatehpur ..	207	189	173	114	144	148	426	449
21	Allahabad ...	578	518	425	400	374	440	1,039	1,032
	JHANSI DIVISION.								
22	Jhansi	501	411	394	257	308	332	705	779
23	Jalaun	191	122	128	102	145	123	336	312
24	Hamirpur ...	285	181	189	127	173	112	405	353
25	Banda	244	188	212	134	186	138	492	433
	BENARES DIVISION.								
26	Benares	780	720	587	528	492	587	994	1,155
27	Mirzapur ...	424	368	322	234	244	244	710	743
28	Jaunpur	773	743	643	531	544	434	1,353	1,179
29	Ghazipur ...	886	927	675	632	343	388	899	1,071
30	Ballia	900	825	666	670	467	482	793	893
	GORAKHPUR DIVISION.								
31	Gorakhpur .	1,865	1,678	1,238	1,026	1,019	886	2,780	2,660
32	Basti	1,379	1,283	958	808	623	547	1,624	1,661
33	Azamgarh ...	1,554	1,635	1,161	1,249	720	788	1,632	2,051
	KUMAUN DIVISION.								
34	Naini Tal ..	246	236	200	167	225	202	515	514
35	Almora	325	314	157	166	193	210	438	625
36	Garhwal	438	341	319	264	289	318	485	681
	LUCKNOW DIVISION.								
37	Lucknow ...	676	675	334	435	335	528	730	1,202
38	Unao	437	317	301	248	269	233	532	536
39	Rae Bareli ..	355	321	259	234	266	223	586	604
40	Sitapur	502	429	335	280	308	333	770	828
41	Hardoi	518	494	385	313	305	342	741	735
42	Kheri	749	618	428	317	396	329	1,013	1,046
	FYZABAD DIVISION.								
43	Fyzabad	955	833	615	550	462	462	1,042	1,144
44	Gonda	646	516	431	291	235	208	775	814
45	Bahraich ...	755	587	429	296	347	282	917	1,023
46	Sultanpur ...	787	589	437	308	329	303	823	913
47	Partabgarh ..	455	406	331	266	213	177	692	621
48	Bara Banki ..	506	386	297	307	265	288	691	858
	Total for the Province	29,633	25,847	19,778	17,677	16,715	18,178	39,717	45,072
	Population ...	3,351,783	3,039,972	2,898,415	2,196,894	2,038,900	1,609,368	3,999,332	3,789,269
	Ratio per 1,000 living	8·84	8·50	6·82	8·05	8·20	11·29	9·93	11·89

FORM No. IV.

of the United Provinces during the year 1929—(concluded).

9		10		11		12		13		14
30 and under 40 years.		40 and under 50 years.		50 and under 60 years.		60 years and upwards.		Total.		
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Number.
230	207	236	127	232	128	530	333	**2,617**	**2,172**	1
1,097	1,044	1,039	851	989	795	1,992	1,630	**15,431**	**14,502**	2
662	799	623	518	714	591	1,537	1,143	**10,321**	**9,382**	3
912	1,054	923	830	1,185	908	3,157	2,381	**19,466**	**17,281**	4
710	796	677	585	909	683	2,093	1,759	**14,703**	**13,122**	5
722	823	757	649	870	772	1,918	1,562	**14,310**	**12,668**	6
478	472	541	410	539	412	1,235	964	**7,801**	**6,619**	7
766	743	877	592	903	633	1,901	1,391	**13,475**	**11,691**	8
689	554	699	442	692	469	727	520	**7,280**	**5,636**	9
717	628	678	465	734	492	1,128	889	**10,306**	**8,538**	10
1,284	1,076	1,350	869	1,217	839	1,967	1,773	**16,618**	**14,724**	11
822	833	748	592	852	685	1,483	1,341	**13,365**	**12,379**	12
767	697	809	569	865	638	1,735	1,392	**12,285**	**10,588**	13
975	1,066	1,076	836	1,228	904	2,488	2,179	**18,709**	**17,643**	14
888	869	1,007	723	1,198	866	1,669	1,487	**14,107**	**12,251**	15
885	753	872	544	908	618	1,067	1,029	**10,482**	**8,901**	16
743	744	891	633	1,023	745	1,340	1,131	**11,259**	**9,799**	17
636	569	763	505	741	574	984	752	**8,223**	**6,972**	18
960	901	1,076	743	1,172	835	1,775	1,328	**14,568**	**12,520**	19
432	411	557	382	564	436	844	655	**6,086**	**4,973**	20
1,118	924	1,164	873	1,276	990	1,810	1,623	**13,927**	**11,906**	21
786	709	871	629	870	732	1,167	1,429	**10,082**	**9,418**	22
332	354	380	316	369	304	450	513	**4,187**	**3,701**	23
422	367	560	453	513	507	756	835	**5,837**	**5,191**	24
582	461	598	436	569	494	710	688	**5,754**	**4,769**	25
963	944	1,079	841	1,114	887	2,842	2,829	**15,278**	**14,127**	26
681	610	789	606	666	578	902	980	**8,717**	**7,911**	27
1,298	1,083	1,243	970	1,230	977	2,037	1,780	**14,401**	**12,033**	28
915	970	955	791	800	687	1,473	1,492	**10,709**	**10,424**	29
898	913	809	657	631	596	1,530	1,584	**9,930**	**9,229**	30
3,037	2,742	2,837	2,017	3,091	2,492	4,490	4,281	**33,308**	**28,838**	31
1,740	1,739	1,679	1,381	1,687	1,314	3,021	3,194	**21,134**	**19,631**	32
1,753	1,792	1,797	1,444	1,519	1,349	2,638	2,661	**19,862**	**19,482**	33
542	424	557	336	407	330	436	391	**4,955**	**4,337**	34
366	419	446	346	466	428	1,268	1,134	**7,016**	**6,806**	35
413	562	455	465	466	481	858	934	**7,579**	**7,595**	36
866	893	988	684	1,112	793	2,833	2,856	**15,321**	**15,179**	37
558	544	613	485	718	485	1,241	986	**8,779**	**7,232**	38
696	575	750	537	865	695	1,482	1,268	**8,595**	**7,055**	39
836	789	937	597	994	652	1,998	1,627	**12,309**	**10,394**	40
773	631	855	581	947	635	1,619	1,279	**11,813**	**9,978**	41
1,283	1,008	1,385	865	1,296	787	2,145	1,758	**14,566**	**11,618**	42
1,208	1,121	1,201	895	1,237	954	2,281	2,195	**15,333**	**13,696**	43
1,096	963	1,088	801	1,142	816	2,355	2,126	**12,097**	**10,377**	44
1,221	1,095	1,330	937	1,177	934	2,765	2,573	**15,218**	**13,230**	45
1,064	953	1,060	763	1,137	859	2,379	2,267	**13,996**	**12,169**	46
772	708	849	602	963	759	1,306	1,241	**9,566**	**8,066**	47
876	833	852	664	907	681	2,367	1,856	**12,039**	**10,211**	48
42,470	40,165	44,326	32,837	45,704	35,219	82,729	74,019	**583,720**	**516,964**	
3,416,415	3,147,346	2,552,757	2,320,241	1,592,005	1,450,417	1,200,254	1,262,103	***23,787,745**	**†21,588,042**	
12·43	12·76	17·36	14·15	28·71	24·28	68·93	58·65	**24·54**	**23·95**	

* Includes 2 persons of unspecified ages.

† „ 4 „ „ „ „

Paragraph 25 of Section V.]

ANNUAL

Deaths registered **according to classes and sexes**

1	2	Population					
		Muhammadans.			Hindus.		
Number.	District.	Male.	Female.	Total.	Male.	Female.	Total.
	MEERUT DIVISION.						
1	Dehra Dun	19,174	10,757	**29,931**	103,997	69,571	**173,568**
2	Saharanpur	167,821	140,585	**308,406**	335,801	272,231	**608,032**
3	Muzaffarnagar	122,061	104,270	**226,331**	295,836	242,406	**538,242**
4	Meerut	183,384	159,274	**342,658**	584,032	495,014	**1,079,046**
5	Bulandshahr	104,228	94,813	**199,041**	437,660	390,468	**828,128**
	AGRA DIVISION.						
6	Aligarh	71,812	60,550	**132,362**	484,713	409,054	**893,767**
7	Muttra	32,532	26,651	**59,183**	302,155	246,266	**548,421**
8	Agra	60,417	49,724	**110,141**	434,327	356,244	**790,571**
9	Mainpuri	21,096	18,190	**39,286**	380,613	309,805	**690,418**
10	Etah	46,750	40,161	**86,911**	389,634	329,142	**718,776**
	ROHILKHAND DIVISION.						
11	Bareilly	138,725	124,025	**262,750**	393,311	334,068	**727,379**
12	Bijnor	137,488	127,922	**265,410**	242,444	214,484	**456,928**
13	Budaun	88,126	77,902	**166,028**	429,587	360,795	**790,382**
14	Moradabad	228,916	207,132	**436,048**	395,270	339,146	**734,416**
15	Shahjahanpur	67,711	62,068	**129,779**	382,171	321,726	**703,897**
16	Pilibhit	40,711	38,338	**79,049**	186,295	162,274	**348,569**
	ALLAHABAD DIVISION.						
17	Farrukhabad	52,430	47,229	**99,659**	411,672	336,112	**747,784**
18	Etawah	22,911	20,088	**42,999**	377,097	305,602	**682,699**
19	Cawnpore	62,911	48,742	**111,653**	568,932	458,813	**1,027,745**
20	Fatehpur	38,316	37,507	**75,823**	301,761	272,144	**573,905**
21	Allahabad	92,807	86,170	**178,977**	624,241	592,678	**1,216,919**
	JHANSI DIVISION.						
22	Jhansi	18,161	14,782	**32,943**	288,606	269,529	**558,135**
23	Jalaun	13,765	12,809	**26,574**	198,652	178,483	**377,135**
24	Hamirpur	14,719	15,138	**29,857**	221,745	212,190	**433,935**
25	Banda	17,356	17,292	**34,648**	283,040	269,340	**552,380**
	BENARES DIVISION.						
26	Benares	50,920	46,851	**97,771**	434,846	416,762	**851,608**
27	Mirzapur	21,967	21,277	**43,244**	338,498	339,998	**678,496**
28	Jaunpur	49,995	51,568	**101,563**	524,105	528,726	**1,052,831**
29	Ghazipur	34,557	37,735	**72,292**	364,288	344,369	**708,657**
30	Ballia	25,625	26,667	**52,292**	400,129	377,131	**777,260**
	GORAKHPUR DIVISION.						
31	Gorakhpur	168,843	161,798	**330,641**	1,487,976	1,445,011	**2,932,987**
32	Basti	167,210	158,583	**325,793**	817,286	781,720	**1,599,006**
33	Azamgarh	91,969	91,472	**183,441**	683,423	660,224	**1,344,647**
	KUMAUN DIVISION.						
34	Naini Tal	32,983	22,779	**55,762**	124,272	90,422	**214,694**
35	Almora	1,840	1,183	**3,023**	262,557	262,907	**525,464**
36	Garhwal	2,695	1,134	**3,829**	229,561	250,664	**480,225**
	LUCKNOW DIVISION.						
37	Lucknow	81,140	70,580	**151,720**	305,608	257,928	**563,536**
38	Unao ...	36,895	33,496	**70,391**	396,139	351,542	**747,681**
39	Rae Bareli	41,810	41,944	**83,754**	432,678	419,514	**852,192**
40	Sitapur	86,271	78,632	**164,903**	494,684	428,597	**923,281**
41	Hardoi	62,736	55,759	**118,495**	521,518	440,805	**962,323**
42	Kheri	70,989	64,092	**135,081**	413,423	363,554	**776,977**
	FYZABAD DIVISION						
43	Fyzabad	63,925	63,863	**127,788**	523,546	519,338	**1,042,884**
44	Gonda	126,188	121,798	**247,986**	626,311	598,121	**1,224,432**
45	Bahraich	113,000	103,892	**216,892**	440,749	406,257	**847,006**
46	Sultanpur	55,769	60,622	**116,391**	438,688	448,533	**887,221**
47	Partabgarh	45,808	47,726	**93,534**	371,353	389,911	**761,264**
48	Bara Banki	90,688	87,311	**177,999**	445,584	405,191	**850,775**
	Total for the Province ..	3,388,151	3,092,881	**6,481,032**	20,130,814	18,274,810	**38,405,624**

FORM No. V.

in the districts of the United Provinces during the year 1929.

3									4
according to census of 1921.									
Christians.			Other classes.			Total.			
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total	Number.
2,933	2,673	**5,606**	2,072	1,066	**3,138**	**128,176**	**84,067**	**212,243**	1
3,293	2,186	**5,479**	8,993	6,561	**15,554**	**515,908**	**421,563**	**937,471**	2
3,451	2,964	**6,415**	12,959	10,318	**23,277**	**434,307**	**359,958**	**794,265**	3
16,995	14,125	**31,120**	25,583	20,667	**46,250**	**809,994**	**689,080**	**1,499,074**	4
6,203	6,208	**12,411**	14,438	12,501	**26,939**	**562,529**	**503,990**	**1,066,519**	5
7,665	7,455	**15,120**	11,189	9,307	**20,496**	**575,379**	**486,366**	**1,061,745**	6
3,320	2,767	**6,087**	3,143	2,304	**5,447**	**341,150**	**277,988**	**619,138**	7
4,199	2,621	**6,820**	9,355	7,268	**16,623**	**508,298**	**415,857**	**924,155**	8
1,552	1,383	**2,935**	8,720	6,668	**15,388**	**411,981**	**336,046**	**748,027**	9
6,298	5,732	**12,030**	6,480	5,563	**12 043**	**449,162**	**380,598**	**829,760**	10
7,186	6,522	**13,708**	5,663	4,375	**10,038**	**544,885**	**468,990**	**1,013,875**	11
812	840	**1,652**	8,899	7,293	**16,192**	**389,643**	**350,539**	**740,182**	12
6,935	6,201	**13,136**	3,175	2,626	**5,801**	**527,823**	**447,524**	**975,347**	13
8,714	8,002	**16,716**	6,122	5,351	**11,473**	**639,022**	**559,631**	**1,198,653**	14
1,768	1,687	**3,455**	1,187	797	**1,984**	**452,837**	**386,278**	**839,115**	15
1,426	1,271	**2,697**	698	588	**1,286**	**229,130**	**202,471**	**431,601**	16
1,561	1,455	**3,016**	3,346	2,828	**6,174**	**469,009**	**387,624**	**856,633**	17
693	549	**1,242**	3,622	2,970	**6,592**	**404,323**	**329,209**	**733,532**	18
3,564	2,368	**5,932**	1,912	1,422	**3,334**	**637,319**	**511,345**	**1,148,664**	19
227	172	**399**	1,223	1,042	**2,265**	**341,527**	**310,865**	**652,392**	20
4,102	2,776	**6,878**	1,038	633	**1,671**	**722,188**	**682,257**	**1,404,445**	21
2,770	1,382	**4,152**	6,053	5,216	**11,269**	**315,590**	**290,909**	**606,499**	22
138	113	**251**	829	650	**1,479**	**213,384**	**192,055**	**405,439**	23
188	476	**664**	451	416	**867**	**237,103**	**228,220**	**465,323**	24
96	71	**167**	438	403	**841**	**300,930**	**287,106**	**588,036**	25
933	924	**1,857**	466	329	**795**	**487,165**	**464,866**	**952,031**	26
369	427	**796**	801	846	**1,647**	**361,635**	**362,548**	**724,183**	27
71	50	**121**	309	281	**590**	**574,480**	**580,625**	**1,155,105**	28
193	181	**374**	125	122	**247**	**399,163**	**382,407**	**781,570**	29
485	462	**947**	281	229	**510**	**426,520**	**404,489**	**831,009**	30
468	385	**853**	1,305	1,044	**2,349**	**1,658,592**	**1,608,238**	**3,266,830**	31
58	56	**114**	187	128	**315**	**984,741**	**940,487**	**1,925,228**	32
70	47	**117**	404	403	**807**	**775,866**	**752,146**	**1,528,012**	33
1,343	1,101	**2,444**	2,200	1,775	**3,975**	**160,798**	**116,077**	**276,875**	34
671	876	**1,547**	185	119	**304**	**265,253**	**265,085**	**530,338**	35
491	483	**974**	116	42	**158**	**232,863**	**252,323**	**485,186**	36
4,818	2,712	**7,530**	993	565	**1,558**	**392,559**	**331,785**	**724,344**	37
100	75	**175**	479	402	**881**	**433,613**	**385,515**	**819,128**	38
96	74	**170**	158	129	**287**	**474,742**	**461,661**	**936,403**	39
301	286	**587**	399	311	**710**	**581,655**	**507,826**	**1,089,481**	40
448	540	**988**	1,464	1,140	**2,604**	**586,166**	**498,244**	**1,084,410**	41
338	258	**596**	427	394	**821**	**485,177**	**428,298**	**913,475**	42
1,151	275	**1,426**	266	211	**477**	**588,888**	**583,687**	**1,172,575**	43
284	202	**486**	113	81	**194**	**752,896**	**720,202**	**1,473,098**	44
149	101	**250**	650	579	**1,229**	**554,548**	**510,829**	**1,065,377**	45
34	96	**130**	102	68	**170**	**494,593**	**509,319**	**1,003,912**	46
9	10	**19**	169	144	**313**	**417,339**	**437,791**	**855,130**	47
55	74	**129**	569	482	**1,051**	**536,896**	**493,058**	**1,029,954**	48
109,024	91,694	**200,718**	159,756	128,657	**288,413**	**23,787,745**	**21,588,042**	**45,375,787**	

Paragraph 25 of Section V.]

ANNUAL

Deaths registered **according to classes and sexes**

1	2						
Number.	District.	Muhammadans.			Hindus.		
		Male.	Female.	Total.	Male	Female.	Total.
	MEERUT DIVISION.						
1	Dehra Dun	401	359	**760**	2,159	1,771	**3,930**
2	Saharanpur	5,399	5,032	**10,431**	9,999	9,443	**19,442**
3	Muzaffarnagar	2,920	2,738	**5,658**	7,394	6,635	**14,029**
4	Meerut	4,327	4,154	**8,481**	14,993	12,978	**27,971**
5	Bulandshahr	2,880	2,808	**5,688**	11,763	10,260	**22,023**
	AGRA DIVISION.						
6	Aligarh	1,930	1,838	**3,768**	12,372	10,824	**23,196**
7	Muttra	707	689	**1,396**	7,036	5,860	**12,896**
8	Agra	1,805	1,714	**3,519**	11,640	9,932	**21,572**
9	Mainpuri	367	349	**716**	6,899	5,278	**12,177**
10	Etah	1,019	974	**1,993**	9,264	7,542	**16,806**
	ROHILKHAND DIVISION.						
11	Bareilly	4,004	3,710	**7,714**	12,535	10,939	**23,474**
12	Bijnor	4,847	4,679	**9,526**	8,414	7,602	**16,016**
13	Budaun	2,288	2,128	**4,416**	9,964	8,436	**18,400**
14	Moradabad	6,965	6,706	**13,671**	11,630	10,832	**22,462**
15	Shahjahanpur	1,986	2,006	**3,992**	12,118	10,237	**22,355**
16	Pilibhit	1,803	1,588	**3,391**	8,621	7,232	**15,853**
	ALLAHABAD DIVISION.						
17	Farrukhabad	1,144	1,146	**2,290**	10,097	8,636	**18,733**
18	Etawah	578	579	**1,157**	7,641	6,392	**14,033**
19	Cawnpore ..	1,954	1,882	**3,836**	12,603	10,629	**23,232**
20	Fatehpur	824	788	**1,612**	5,261	4,185	**9,446**
21	Allahabad	1,977	1,879	**3,856**	11,932	10,010	**21,942**
	JHANSI DIVISION.						
22	Jhansi	522	522	**1,044**	9,456	8,806	**18,262**
23	Jalaun	314	282	**596**	3,872	3,419	**7,291**
24	Hamirpur	350	321	**671**	5,483	4,870	**10,353**
25	Banda	416	374	**790**	5,337	4,395	**9,732**
	BENARES DIVISION.						
26	Benares	1,907	2,024	**3,931**	13,348	12,087	**25,435**
27	Mirzapur	463	471	**934**	8,251	7,433	**15,684**
28	Jaunpur	1,240	1,185	**2,425**	13,161	10,844	**24,005**
29	Ghazipur	1,048	1,075	**2,123**	9 652	9,339	**18,991**
30	Ballia ...	744	821	**1,565**	9,118	8,342	**17,460**
	GORAKHPUR DIVISION.						
31	Gorakhpur	3,323	2,965	**6,288**	29,973	25,868	**55,841**
32	Basti	3,325	3,150	**6,475**	17,805	16,479	**34,284**
33	Azamgarh	2,735	2,983	**5,718**	17,126	16,497	**33,623**
	KUMAUN DIVISION.						
34	Naini Tal	1,367	1,226	**2,593**	3,544	3,069	**6,613**
35	Almora	39	41	**80**	6,959	6,750	**13,709**
36	Garhwal	28	30	**58**	7,545	7,561	**15,106**
	LUCKNOW DIVISION.						
37	Lucknow	3,940	4,428	**8,368**	11,317	10,710	**22,027**
38	Unao	764	711	**1,475**	8,015	6,519	**14,534**
39	Rae Bareli	846	830	**1,676**	7,749	6,221	**13,970**
40	Sitapur	1,779	1,583	**3,362**	10,513	8,803	**19,316**
41	Hardoi	1,294	1,259	**2,553**	10,513	8,712	**19,225**
42	Kheri	1,784	1,432	**3,216**	12,757	10,166	**22,923**
	FYZABAD DIVISION.						
43	Fyzabad	1,560	1,591	**3,151**	13,762	12,097	**25,859**
44	Gonda	2,014	1,798	**3,812**	10,069	8,557	**18,626**
45	Bahraich	2,907	2,585	**5 492**	12,291	10,625	**22,916**
46	Sultanpur	1,506	1,468	**2,974**	12,489	10,698	**23,187**
47	Partabgarh	977	834	**1,811**	8,588	7,232	**15,820**
48	Bara Banki	2,097	1,912	**4,009**	9,924	8,283	**18,207**
	Total for the Province ...	89,414	85,647	**175,061**	492,952	430,035	**922,987**

FORM No. V.

in the districts of the United Provinces during the year 1929—(continued).

5									6
Number of deaths registered.									
Christians.			Other classes.			Total.			
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Number.
54	39	**93**	3	3	**6**	**2,617**	**2,172**	**4,789**	1
6	4	**10**	27	23	**50**	**15,431**	**14,502**	**29,933**	2
5	5	**10**	2	4	**6**	**10,321**	**9,382**	**19,703**	3
12	12	**24**	134	137	**271**	**19,466**	**17,281**	**36,747**	4
17	9	**26**	43	45	**88**	**14,703**	**13,122**	**27,825**	5
5	6	**11**	3		**3**	**14,310**	**12,668**	**26,978**	6
3	5	**8**	55	65	**120**	**7,801**	**6,619**	**14,420**	7
16	22	**38**	14	23	**37**	**13,475**	**11,691**	**25,166**	8
4	1	**5**	10	8	**18**	**7,280**	**5,636**	**12,916**	9
8	3	**11**	15	19	**34**	**10,306**	**8,538**	**18,844**	10
37	37	**74**	42	38	**80**	**16,618**	**14,724**	**31,342**	11
3	7	**10**	101	91	**192**	**13,365**	**12,379**	**25,744**	12
25	12	**37**	8	12	**20**	**12,285**	**10,588**	**22,873**	13
64	66	**130**	50	45	**95**	**18,709**	**17,643**	**36,352**	14
3	7	**10**	...	1	**1**	**14,107**	**12,251**	**26,358**	15
2	6	**8**	56	75	**131**	**10,482**	**8,901**	**19,383**	16
4	5	**9**	14	12	**26**	**11,259**	**9,799**	**21,058**	17
...	...	...	4	1	**5**	**8,223**	**6,972**	**15,195**	18
6	7	**13**	5	2	**7**	**14,568**	**12,520**	**27,088**	19
...	...	...	1	...	**1**	**6,086**	**4,973**	**11,059**	20
18	17	**35**	...	...	...	**13,927**	**11,906**	**25,833**	21
15	12	**27**	89	78	**167**	**10,082**	**9,418**	**19,500**	22
...	...	...	1	..	**1**	**4,187**	**3,701**	**7,888**	23
2	...	**2**	2	..	**2**	**5,837**	**5,191**	**11,028**	24
1	...	**1**	...	..	...	**5,754**	**4,769**	**10,523**	25
19	14	**33**	4	2	**6**	**15,278**	**14,127**	**29,405**	26
3	7	**10**	...	...	...	**8,717**	**7,911**	**16,628**	27
...	...	...	...	4	**4**	**14,401**	**12,033**	**26,434**	28
3	5	**8**	6	5	**11**	**10,709**	**10,424**	**21,133**	29
6	3	**9**	62	63	**125**	**9,930**	**9,229**	**19,159**	30
8	2	**10**	4	3	**7**	**33,308**	**28,838**	**62,146**	31
4	2	**6**	...	...	...	**21,134**	**19,631**	**40,765**	32
1	2	**3**	...	...	...	**19,862**	**19,482**	**39,344**	33
20	16	**36**	24	26	**50**	**4,955**	**4,337**	**9,292**	34
13	13	**26**	5	2	**7**	**7,016**	**6,806**	**13,822**	35
4	4	**8**	2	...	**2**	**7,579**	**7,595**	**15,174**	36
59	39	**98**	5	2	**7**	**15,321**	**15,179**	**30,500**	37
...	2	**2**	...	...	...	**8,779**	**7,232**	**16,011**	38
...	3	**3**	...	1	**1**	**8,595**	**7,055**	**15,650**	39
1	...	**1**	16	8	**24**	**12,309**	**10,394**	**22,703**	40
1	2	**3**	5	5	**10**	**11,813**	**9,978**	**21,791**	41
8	9	**17**	17	11	**28**	**14,566**	**11,618**	**26,184**	42
6	1	**7**	5	7	**12**	**15,333**	**13,696**	**29,029**	43
1	6	**7**	13	16	**29**	**12,097**	**10,377**	**22,474**	44
...	...	...	20	20	**40**	**15,218**	**13,230**	**28,448**	45
..	1	**1**	1	2	**3**	**13,996**	**12,169**	**26,165**	46
...	...	...	1	..	**1**	**9,566**	**8,066**	**17,632**	47
...	...	...	18	16	**34**	**12,039**	**10,211**	**22,250**	48
467	413	**880**	887	875	**1,762**	**583,720**	**516,964**	**1,100,684**	

Paragraph 25 of Section V.]

ANNUAL

Deaths registered **according to classes and sexes**

1	2						
Number.	District.	Muhammadans.			Hindus.		
		Male.	Female.	Total.	Male.	Female.	Total.
	MEERUT DIVISION.						
1	Dehra Dun	20·91	33·37	**25·39**	20·76	25·46	**22·64**
2	Saharanpur	32·17	35·79	**33·82**	29·78	34·69	**31·98**
3	Muzaffarnagar	23·92	26·26	**24·99**	24·99	27·37	**26·06**
4	Meerut ...	23·59	26·08	**24·75**	25·67	26·22	**25·92**
5	Bulandshahr	27·63	29·62	**28·58**	26·90	26·28	**26·59**
	AGRA DIVISION.						
6	Aligarh	26·88	30·36	**28·47**	25·52	26·46	**25·95**
7	Muttra	21·73	25·85	**23·59**	23·29	23·79	**23·51**
8	Agra	29·88	34·47	**31·95**	26·80	27·91	**27·28**
9	Mainpuri	17·39	19·19	**18·23**	18·12	17·03	**17·63**
10	Etah	21·80	24·25	**22·93**	23·77	22·91	**23·38**
	ROHILKHAND DIVISION.						
11	Bareilly	28·86	29·91	**29·35**	30·19	32·74	**32·27**
12	Bijnor	35·25	36·58	**35·89**	34·70	35·44	**35·05**
13	Budaun	25·96	27·32	**26·60**	23·19	23·28	**23·28**
14	Moradabad	30·42	32·38	**31·35**	29·42	31·93	**30·58**
15	Shahjahanpur	29·33	32·32	**30·76**	31·71	31·82	**31·76**
16	Pilibhit	44·29	41·42	**42·90**	46·28	44·57	**45·48**
	ALLAHABAD DIVISION.						
17	Farrukhabad	21·82	24·26	**22·98**	24·50	25·69	**25·05**
18	Etawah	25·22	28·82	**26·91**	20·26	20·92	**20·56**
19	Cawnpore	31·06	38·61	**34·36**	22·15	23·17	**22·70**
20	Fatehpur	21·51	21·00	**21·26**	17·43	15·38	**16·45**
21	Allahabad	21·30	21·80	**21·54**	19·11	16·89	**18·03**
	JHANSI DIVISION						
22	Jhansi	28·74	35·31	**31·02**	32·76	32·67	**32·72**
23	Jalaun	22·81	22·01	**22·42**	19·49	19·72	**19·33**
24	Hamirpur	23·78	21·20	**22·47**	24·72	22·95	**23·86**
25	Banda	23·97	21·63	**22·80**	18·86	16·32	**17·62**
	BENARES DIVISION.						
26	Benares	37·45	43·20	**40·21**	30·70	29·02	**29·87**
27	Mirzapur	21·08	22·13	**21·60**	24·38	21·86	**23·12**
28	Jaunpur	24·80	22·97	**23·88**	25·11	20·50	**22·80**
29	Ghazipur	30·33	28·48	**29·36**	26·48	27·11	**26·79**
30	Ballia	29·34	30·79	**29·87**	22·79	22·12	**22·48**
	GORAKHPUR DIVISION.						
31	Gorakhpur	19·68	18·33	**19·02**	20·14	17·90	**19·03**
32	Basti	19·88	19·86	**19·87**	21·78	21·08	**21·44**
33	Azamgarh	29·74	32·61	**31·17**	25·04	24·99	**25·02**
	KUMAUN DIVISION.						
34	Naini Tal	41·44	50·38	**46·50**	28·52	33·94	**30·81**
35	Almora	21·19	34·65	**26·46**	26·50	25·67	**26·08**
36	Garhwal	10·38	26·45	**15·14**	32·86	30·16	**31·46**
	LUCKNOW DIVISION.						
37	Lucknow	48·55	62·74	**55·15**	37·03	41·53	**39·09**
38	Unao	20·71	21·22	**20·95**	20·23	18·54	**19·44**
39	Rae Bareli	20·23	19·79	**20·01**	17·90	14·82	**16·39**
40	Sitapur	20·62	20·13	**20·38**	21·25	20·54	**20·92**
41	Hardoi	20·63	22·58	**21·54**	20·16	19·76	**21·01**
42	Kheri	25·12	22·34	**23·81**	30·86	27·96	**29·50**
	FYZABAD DIVISION.						
43	Fyzabad	24·39	24·91	**24·66**	26·29	23·29	**24·79**
44	Gonda	15·96	14·76	**11·33**	16·07	14·30	**15·20**
45	Bahraich	24·84	24·88	**25·32**	27·89	26·15	**27·05**
46	Sultanpur	27·00	24·21	**25·55**	28·47	23·85	**26·13**
47	Partabgarh	21·33	17·47	**19·36**	23·12	18·55	**20·78**
48	Bara Banki	23·12	21·89	**22·52**	22·27	20·44	**21·40**
	Total for the Province ...	26·39	27·69	**27·01**	24·49	23·53	**24·03**

FORM No. V.

in the districts of the United Provinces during the year 1929—(concluded).

7									8
Ratio of deaths per 1,000 of population.									
Christians.			Other classes.			Total.			
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Number.
18·41	14·59	**16·59**	1·45	2·81	**1·91**	**20·42**	**25·84**	**22·56**	1
1·82	1·83	**1·83**	3·00	3·51	**3·21**	**29·91**	**34·40**	**31·93**	2
1·45	1·69	**1·56**	·15	·39	**·26**	**23·76**	**26·06**	**24·81**	3
·70	·85	**·77**	5·24	6·63	**5·86**	**24·03**	**25·08**	**24·51**	4
2·74	1·45	**2·09**	2·97	3·60	**3·27**	**26·14**	**26·04**	**26·09**	5
·65	·80	**·73**	·27	...	**·15**	**24·87**	**26·05**	**25·41**	6
·90	1·81	**1·31**	17 49	28·21	**22·03**	**22·87**	**23·81**	**23·29**	7
3·81	8·39	**5·57**	1·49	3·16	**2·23**	**26·51**	**28·11**	**27·23**	8
2·58	·72	**1·70**	1·14	1·19	**1·17**	**17·67**	**16·77**	**17·27**	9
1·27	·52	**·91**	2·31	3·42	**2·82**	**22·94**	**22·43**	**22·71**	10
5·15	5·67	**5·40**	7·42	8·68	**7·96**	**30·50**	**31·39**	**30·91**	11
3·69	8·33	**6·05**	11·35	12·48	**11·86**	**34·30**	**35·31**	**34·78**	12
3·60	1·94	**2·82**	2·51	4·57	**3·44**	**23·27**	**23·66**	**23·45**	13
7·34	8·25	**7·77**	8·17	8·40	**8·28**	**29·28**	**31·53**	**30·33**	14
1·70	4·15	**2·89**	80·23	1·25	**·50**	**31·15**	**31·71**	**31·41**	15
1·40	4·72	**2·97**	80·23	127·55	**101·87**	**45·75**	**43·96**	**44·91**	16
2·56	3·43	**2·98**	4·18	4·24	**4·21**	**24·00**	**25·28**	**24·58**	17
...	...	...	1·10	·33	**·76**	**20·34**	**21·18**	**20·71**	18
1·68	2·96	**2·19**	2·62	1·46	**2·10**	**22·86**	**24·48**	**23·58**	19
...	...	...	·82	...	**·44**	**17·82**	**16·00**	**16·95**	20
4·39	6·12	**5·09**	...	...	..	**19·28**	**17·45**	**18·39**	21
5·42	8·68	**6·56**	14·70	14·95	**14·82**	**31·95**	**32·37**	**32·15**	22
...	...	...	1·20	...	**·67**	**19·62**	**19·27**	**19·45**	23
10·63	...	**3·01**	4·43	...	**2 31**	**24·62**	**22·75**	**23·70**	24
10·42	...	**5·99**	...	...	-	**19·12**	**16·61**	**17·89**	25
2·36	15·15	**17·77**	8·58	6·08	**7·55**	**31·36**	**30·39**	**30·89**	26
9·70	16·30	**12·56**	...	...	...	**24·10**	**21·82**	**22·96**	27
...	...	...	...	14·23	**6·78**	**25·07**	**20·72**	**22·88**	28
15·54	27·62	**21·39**	48·00	40·90	**44·53**	**26·83**	**27·26**	**27·04**	29
12·37	6·49	**9·50**	220·64	275·10	**245·98**	**23·28**	**22·82**	**23·05**	30
17·09	5·19	**11·72**	3·07	2·87	**2·98**	**20·08**	**17·93**	**19·02**	31
68·97	35·71	**52·63**	...	..	...	**21·46**	**20·87**	**21·17**	32
14·28	42·55	**25·64**	...	..	...	**25·60**	**25·90**	**25·75**	33
14·89	14·53	**14·72**	10·91	14·65	**12·58**	**30·81**	**37·35**	**33·56**	34
19·37	14·84	**16·80**	27·02	16·72	**23·02**	**26·45**	**25·67**	**26·06**	35
8·14	8·28	**8·21**	17·24	...	**12·65**	**32·55**	**30·70**	**31·27**	36
12·24	14·34	**13·01**	5·03	3·55	**4·49**	**39·03**	**45·75**	**42·11**	37
..	26·67	**11·43**	...	...	...	**20·25**	**18·76**	**19·55**	38
..	40·54	**17 65**	...	7·75	**3·48**	**18·10**	**15·28**	**16·71**	39
3 32	.	**1·70**	40·10	25·72	**33·80**	**21·16**	**20·47**	**20·84**	40
2·23	3·70	**3·03**	3·41	4·38	**3·84**	**20·15**	**20·03**	**20·09**	41
23·67	34·88	**28·52**	39·81	27·92	**34·10**	**30·02**	**27·12**	**28·66**	42
5·21	3·63	**4·90**	18·64	33·17	**25·16**	**26·04**	**23·46**	**24·76**	43
3·52	29·70	**15·40**	114·99	197·53	**149·48**	**16·07**	**14·41**	**15·26**	44
...	...	...	30·77	34·54	**32·55**	**27·44**	**25·90**	**26·70**	45
..	10·41	**7·69**	9·80	29·41	**17·64**	**28·30**	**23·89**	**26·06**	46
...	...	...	5·92	..	**3·19**	**22·92**	**18·42**	**20·62**	47
...	..	..	31·63	33·19	**32·35**	**22·42**	**20·71**	**21·60**	48
4·28	4·50	**4·38**	5·55	6·80	**6·11**	**24·54**	**23·95**	**24·26**	

Paragraphs 26 of Section V and 4, 6, 11, 13, 18 and 20—22 of Section VI.]

ANNUAL

Deaths from ***different causes*** *and births registered in the* ***towns*** *such towns) of the United*

1	2	3	4				5	6	7
			Births.						
Number.	Districts and towns.	Population according to census of 1921.	Male.	Female.	Total.	Birth-rate per 1,000 of population.	Cholera.	Small-pox.	Plague.
	A.—Rural districts.								
	MEERUT DIVISION.								
1	Dehra Dun ...	**170,446**	2,250	2,039	**4,289**	25·16	43	2	3
2	Saharanpur ...	**802,435**	18,828	16,520	**35,348**	44·05	16	69	2,214
3	Muzaffarnagar ...	**743,280**	16,842	14,566	**31,408**	42·25	38	141	3,047
4	Meerut	**1,385,632**	29,258	25,374	**54,632**	39·43	80	743	254
5	Bulandshahr ...	**994,160**	22,233	19,949	**42,182**	42·43	138	1,283	...
	AGRA DIVISION.								
6	Aligarh	**943,001**	19,863	17,250	**37,113**	39·36	175	459	...
7	Muttra	**555,782**	10,593	9,239	**19,832**	35·68	110	555	...
8	Agra	**740,222**	15,122	13,095	**28,217**	38·12	85	602	...
9	Mainpuri ...	**723,301**	13,302	10,832	**24,134**	33·37	27	165	...
10	Etah	**797,813**	14,470	12,938	**27,408**	34·35	61	1,064	660
	ROHILKHAND DIVISION.								
11	Bareilly	**881,568**	19,165	17,318	**36,483**	41·38	1,204	150	232
12	Bijnor	**644,757**	15,282	13,406	**28,688**	44·49	172	488	698
13	Budaun	**909,071**	18,395	16,564	**34,959**	38·45	95	186	324
14	Moradabad ...	**1,008,785**	23,925	21,806	**45,731**	45·33	147	375	600
15	Shahjahanpur ...	**753,749**	15,734	14,196	**29,930**	39·71	1,517	80	197
16	Pilibhit ...	**399,257**	7,981	7,221	**15,202**	38·07	2,753	65	112
	ALLAHABAD DIVISION.								
17	Farrukhabad ...	**790,044**	15,139	13,566	**28,705**	36·33	36	18	178
18	Etawah	**691,974**	13,498	11,995	**25,493**	36·84	11	96	1
19	Cawnpore ...	**953 579**	13,580	11,306	**24,886**	26·10	894	90	..
20	Fatehpur ...	**637,444**	10,937	9,833	**20,770**	32·58	356	37	55
21	Allahabad ...	**1,258,840**	19,245	16,731	**35,976**	28·58	1,254	107	406
	JHANSI DIVISION.								
22	Jhansi	**519,627**	11,352	10,415	**21,767**	41·89	1,536	24	...
23	Jalaun	**380,899**	7,399	6,661	**14,060**	36·91	128	58	..
24	Hamirpur ...	**453,675**	9,551	8,546	**18,097**	39·89	182	1	..
25	Banda	**568,007**	9,755	8,270	**18,025**	31·73	413	18	...
	BENARES DIVISION.								
26	Benares	**756,658**	13,222	12,311	**25,533**	33·74	1,055	43	552
27	Mirzapur ...	**669,189**	12,382	11,504	**23,886**	35·69	795	26	...
28	Jaunpur ...	**1,122,536**	18,043	15,278	**33,321**	29·68	3,100	154	699
29	Ghazipur ...	**746,626**	13,096	11,648	**24,744**	33·14	2,827	183	4,313
30	Ballia	**812,794**	12,735	10,899	**23,634**	29·08	2,812	147	3,207
	GORAKHPUR DIVISION.								
31	Gorakhpur ..	**3,203,835**	51,426	47,625	**99,051**	30·92	4,006	99	2,677
32	Basti	**1,907,537**	29,691	26,316	**56,007**	29·36	2,861	41	3,586
33	Azamgarh ...	**1,482,726**	23,508	21,158	**44,666**	30·12	2,633	227	7,709
	KUMAUN DIVISION.								
34	Naini Tal ...	**255,907**	3,705	3,324	**7,029**	27·47	81	17	22
35	Almora	**530,338**	11,344	11,138	**22,482**	42·39	46	32	..
36	Garhwal... ...	**485,186**	10,923	10,703	**21,626**	44·57	447	26	..
	LUCKNOW DIVISION.								
37	Lucknow ...	**507,177**	9,219	8,345	**17,564**	34·63	146	90	47
38	Unao ..	**807,981**	12,057	10,530	**22,587**	27·95	244	65	356
39	Rae Bareli ..	**920,220**	12,556	10,373	**22,929**	24·92	597	19	211
40	Sitapur	**1,048,342**	16,926	14,691	**31,617**	30·16	198	14	464
41	Hardoi	**1,037,228**	16,353	14,263	**30,616**	29·52	651	131	332
42	Kheri	**901,079**	15,748	13,614	**29,362**	32·58	1,408	22	180
	FYZABAD DIVISION.								
43	Fyzabad	**1,102,975**	16,768	14,701	**31,469**	28·53	3,379	157	1,349
44	Gonda	**1,443,739**	16,885	14,282	**31,167**	21·59	2,465	15	142
45	Bahraich ...	**1,027,082**	16,639	14,363	**31,002**	30·18	912	1	25
46	Sultanpur ...	**1,003,912**	15,825	13 540	**29 365**	29·25	1,804	21	28
47	Partabgarh ...	**855,130**	13,205	11,067	**24,272**	28·38	2,469	46	228
48	Bara Banki ...	**1,007,258**	14,590	13,00	**27,650**	27·45	1,002	19	797
	Total of rural districts	**42,342,803**	750,545	664,369	**1,414,914**	33·41	47,469	8,471	35,905

FORM NO. VI.

(having a population of 10,000 and upwards) and **districts** *(exclusive of Provinces during the year 1929.)*

8	9	10	11						12	13	14
			Injuries.								
			Suicide.								
Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Number.
2,824	152	210	1	2	45	4	2	**54**	228	**3,516**	1
20,526	56	201	5	11	144	22	2	**184**	290	**23,556**	2
14,531	81	89	14	18	94	6	6	**138**	219	**18,284**	3
30,842	62	266	19	61	215	38	1	**334**	438	**33,019**	4
22,347	197	239	16	37	229	39	8	**329**	408	**24,941**	5
18,830	97	151	11	43	223	34	2	**313**	1,891	**21,916**	6
9,103	172	127	4	14	176	19	5	**218**	656	**10,941**	7
13,684	43	147	20	40	229	31	5	**325**	1,684	**16,570**	8
11,455	14	33	18	41	211	50	5	**325**	576	**12,595**	9
13,748	180	234	24	34	221	32	8	**319**	1,550	**17,816**	10
24,383	63	142	6	23	198	202	68	**497**	1,255	**27,986**	11
16,948	101	151	13	12	124	124	7	**280**	2,868	**21,706**	12
18,794	57	81	31	52	210	147	...	**440**	314	**20,291**	13
26,231	234	383	11	10	174	128	5	**328**	722	**29,020**	14
19,089	23	56	16	41	177	159	15	**408**	2,224	**23,594**	15
13,453	35	50	6	7	86	175	11	**285**	991	**17,744**	16
14,952	38	101	19	50	202	99	10	**380**	2,803	**18,506**	17
9,823	17	77	4	23	177	32	4	**240**	3,006	**13,271**	18
13,264	18	89	17	24	285	109	10	**445**	2,007	**16,807**	19
6,569	39	122	8	19	259	76	4	**366**	2,897	**10,441**	20
13,947	60	177	11	30	375	122	4	**542**	3,743	**20,236**	21
11,393	52	128	22	70	194	55	1	**342**	2,260	**15,735**	22
5,058	17	168	8	21	62	26	5	**122**	1,426	**6,977**	23
7,409	32	2,419	12	61	154	56	6	**289**	294	**10,626**	24
7,304	35	46	4	24	167	108	2	**305**	1,961	**10,082**	25
11,550	16	54	4	13	248	77	3	**345**	3,300	**16,915**	26
10,728	43	43	7	18	193	106	...	**324**	3,151	**15,110**	27
16,275	44	90	12	35	378	139	5	**569**	4,410	**25,341**	28
10,580	45	60	8	14	255	80	4	**361**	1,967	**20,336**	29
9,507	320	124	5	11	326	106	10	**458**	2,215	**18,790**	30
45,359	181	214	15	51	877	465	32	**1,440**	5,711	**59,687**	31
26,633	70	89	4	10	366	142	6	**528**	6,495	**40,303**	32
22,298	131	149	17	45	547	174	4	**787**	3,849	**37,783**	33
8,043	96	160	4	8	41	28	1	**82**	158	**8,659**	34
11,679	766	570	13	21	134	30	1	**199**	530	**13,822**	35
11,835	2,103	378	6	23	105	25	1	**160**	225	**15,174**	36
11,623	74	195	10	3	184	41	3	**241**	1,621	**14,037**	37
12,915	66	159	6	25	225	50	17	**323**	1,502	**15,630**	38
12,528	33	58	15	17	356	58	1	**447**	1,145	**15,038**	39
18,215	23	77	22	25	315	161	6	**529**	1,552	**21,072**	40
16,650	48	74	33	34	256	123	15	**461**	1,632	**19,979**	41
22,040	61	143	25	22	224	127	22	**420**	1,651	**25,925**	42
18,212	69	88	7	10	346	94	4	**461**	2,865	**26,580**	43
16,513	48	98	8	15	411	224	3	**661**	1,627	**21,569**	44
21,501	49	56	9	11	279	160	12	**471**	3,926	**26,941**	45
20,181	234	159	7	22	359	99	5	**492**	3,246	**26,165**	46
12,490	18	47	7	16	302	39	2	**366**	1,968	**17,632**	47
17,121	76	107	18	17	327	126	11	**499**	1,872	**21,493**	48
750,983	6,489	9,079	582	1,234	11,685	4,567	364	**18,432**	93,329	**970,157**	

Paragraphs 26 of Section V and 4, 6, 11, 13, 18 and 20—22 of Section VI.]

ANNUAL FORM NO. VI.

Deaths from **different causes** *and births registered in the* **towns** *(having a population of 10,000 and upwards) and* **districts** *(exclusive of such towns) of the United Provinces during the year 1929*—(contd.).

1	2	3	15									
			Ratio of deaths per 1,000 of population.									
Number.	Districts and towns.	Population according to census of 1921.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean ratio of previous five years.
	A.—Rural districts—(concld.).											
	MEERUT DIVISION.											
1	Dehra Dun ...	**170,446**	·25	·01	·02	16·57	·89	1·23	·32	1·34	**20·63**	**21·92**
2	Saharanpur ...	**802,435**	·02	·08	2·76	25·58	·07	25	·23	·36	**29·35**	**31 30**
3	Muzaffarnagar ...	**743,280**	·05	·19	4·10	19·55	·11	·12	·18	·29	**24·60**	**26·74**
4	Meerut	**1,385,632**	·06	·54	·18	22·26	·04	·19	24	·32	**23·83**	**31·70**
5	Bulandshahr ...	**994,160**	·14	1·29	...	22·48	·20	·24	·33	·41	**25·09**	**34·15**
	AGRA DIVISION.											
6	Aligarh	**943,001**	·18	·48	...	19·97	·10	·16	·33	2·00	**23 24**	**26·44**
7	Muttra	**555,782**	·19	1·00	...	16·38	·31	·23	·39	1·18	**19 68**	**20·88**
8	Agra	**740,222**	·11	·81	...	18·49	·06	·20	·44	2·27	**22 38**	**23·27**
9	Mainpuri ...	**723,301**	·04	·23	...	15·84	·02	·04	·45	·79	**17·41**	**24 98**
10	Etah	**797,813**	·08	1·33	·83	17·23	·22	·29	·40	1·94	**22·33**	**22·84**
	ROHILKHAND DIVISION.											
11	Bareilly	**881,568**	1·43	·17	·26	27·66	·07	·16	·56	1·42	**31·74**	**30·81**
12	Bijnor	**644,757**	·27	·76	1·08	26·28	·16	·23	·43	4·45	**33·66**	**33·43**
13	Budaun	**909,071**	·10	·20	·36	20·67	·06	·09	·48	·34	**22·32**	**27.80**
14	Moradabad ...	**1,008,785**	·14	·37	·59	26·00	·23	·38	·32	·71	**28 77**	**31·74**
15	Shahjahanpur ...	**753,749**	2·01	·11	·26	25·32	·03	·07	·54	2·95	**31 30**	**31·38**
16	Pilibhit	**399,257**	6·89	·16	·28	33·69	·09	·12	·71	2·48	**44 44**	**31·66**
	ALLAHABAD DIVISION.											
17	Farrukhabad ...	**790,044**	·04	·02	·22	18·92	·05	·13	·48	3·55	**23·42**	**30·79**
18	Etawah	**691,974**	·01	·14	...	14·19	·02	·11	·35	4·34	**19 18**	**23·46**
19	Cawnpore ...	**953,579**	94	·09	...	13 91	·02	·09	·47	2·10	**17·62**	**17·95**
20	Fatehpur ...	**637,444**	·56	·06	·09	10·30	·06	·17	·57	4·54	**16·38**	**16·81**
21	Allahabad ...	**1,258,840**	1·00	·08	·32	11·08	·05	·14	·43	2·97	**16·07**	**19·70**
	JHANSI DIVISION.											
22	Jhansi	**519,627**	2·96	·04	...	21·92	·10	·25	·66	4·35	**30·28**	**29·30**
23	Jalaun	**380,899**	·34	·15	...	13·28	·04	·44	·32	3·74	**18·32**	**23·21**
24	Hamirpur ...	**453,675**	·40	...	..	16·33	·07	5·33	·64	·65	**23·42**	**29 22**
25	Banda	**568,007**	·73	·03	..	12·86	·06	·08	·54	3·45	**17·75**	**22·64**
	BENARES DIVISION.											
26	Benares	**756,658**	1·39	·06	·73	15·26	·02	·07	·45	4·36	**22·35**	**22·01**
27	Mirzapur ...	**669,189**	1·19	·04	...	16·03	.06	·06	·48	4·71	**22 58**	**25·09**
28	Jaunpur	**1,122,536**	2·76	·14	·62	14·50	·04	·08	·50	3·93	**22·57**	**20 56**
29	Ghazipur ...	**746,626**	3·79	·24	5·78	14·17	·06	·08	·48	2·63	**27·24**	**25·31**
30	Ballia	**812,794**	3·46	·18	3·94	11·70	·39	·15	·56	2·72	**23·12**	**20·96**
	GORAKHPUR DIVISION.											
31	Gorakhpur ...	**3,203,835**	1·25	·03	·83	14·16	·06	·07	·45	1·78	**18·63**	**18·69**
32	Basti	**1,907,537**	1·50	·02	1·88	13·96	·04	·05	·28	3·40	**21·13**	**22·49**
33	Azamgarh ...	**1,482,726**	1·77	·15	5·20	15·04	·09	·10	·53	2·59	**25·48**	**26·61**
	KUMAUN DIVISION.											
34	Naini Tal ...	**255,907**	·32	·07	·08	31·43	·37	·62	·32	·62	**33·84**	**30·87**
35	Almora	**530,338**	·09	·06	...	22·02	1·44	1·07	·37	1·00	**26·06**	**23·81**
36	Garhwal ...	**485,186**	·92	·05	..	24·39	4·33	·78	·33	·46	**31·27**	**28·01**
	LUCKNOW DIVISION.											
37	Lucknow ...	**507,177**	·29	·18	·09	22·92	·14	·38	·47	3·20	**27·68**	**21·75**
38	Unao	**807,981**	·30	·08	·44	15·98	·08	·20	·40	1·86	**19·34**	**20·77**
39	Rae Bareli ...	**920,220**	·65	·02	·23	13·61	·03	·06	·48	1·24	**16·34**	**17·30**
40	Sitapur	**1 048.342**	·19	·01	·44	17·37	·02	·07	·50	1·48	**20·10**	**22·75**
41	Hardoi	**1.037,228**	·63	·13	·32	16·05	·05	·07	·44	1·57	**19 26**	**22·52**
42	Kheri	**901,079**	1·56	·02	·20	24·46	·07	·16	·47	1·83	**28·77**	**24·39**
	FYZABAD DIVISION.											
43	Fyzabad	**1,102,975**	3·06	.14	1·22	16·51	·06	·08	·42	2·60	**24·10**	**23 81**
44	Gonda	**1,443,739**	1·71	·01	·10	11·44	·03	·07	·46	1·12	**14·94**	**15·64**
45	Bahraich ...	**1,027,082**	·89	..	·02	20·93	·05	·05	·46	3·82	**26 23**	**20·43**
46	Sultanpur ...	**1,003,912**	1·80	·02	·03	20·10	·23	·16	·49	3·23	**26·06**	**25·18**
47	Partabgarh ...	**855,130**	2·89	·05	·27	14·60	·02	·05	·43	2·30	**20·62**	**20·04**
48	Bara Banki ...	**1,007,258**	·99	·02	·79	17·00	·07	·11	·49	1·86	**21·34**	**22 45**
	Total of rural districts	**42,342,803**	1·12	·20	·85	17·73	·15	·21	·43	2·20	**22·91**	**24 07**

Paragraphs 26 of Section V and 3—6, 10—13 and 17—22 of Section VI.]

ANNUAL FORM No. VI.

Deaths from **different causes** *and Births registered in the* **towns** *(having a population of* 10,000 *and upwards) and* **districts** *(exclusive of such towns) of the United Provinces during the year* 1929—(contd.).

1	2	3	4	5				6	7	8
Number.	Districts.	Towns.	Population according to census of 1921.	Births. Male.	Female.	Total.	Birth-rate per of 1,000 population.	Cholera.	Small-pox.	Plague.
		B.—Towns.								
1	Dehra Dun	Dehra ...	**33,500**	662	659	**1,321**	39·43	7	5	24
2		Mussooree ...	(*a*) **8,297**	97	76	**173**	13·37	...	6	...
3	Saharanpur	Hardwar Union ...	**30,795**	567	587	**1,154**	37·47	58	13	1
4		Saharanpur ...	**62,261**	1,792	1,713	**3,505**	56·29	5	20	4
5		Deoband ...	**17,891**	636	605	**1,241**	69·36	10	2	33
6		Gangoh ...	**11,843**	308	316	**624**	52·69	1	4	60
7		Roorkee ...	**12,246**	301	270	**571**	46·63	3	3	19
8	Muzaffarnagar.	Kairana ...	**16,683**	403	391	**794**	47 59	...	10	5
9		Kandhla ...	**10,365**	184	188	**372**	35·89	...	6	14
10		Muzaffarnagar ...	**23,937**	598	525	**1,123**	46·91	2	29	1
11	Meerut ...	Meerut ...	**77,711**	1,674	1,501	**3,175**	40·86	18	68	...
12		Hapur ...	**20,388**	558	552	**1,110**	54·44	1	74	...
13		Ghaziabad ...	**15,343**	347	326	**673**	43·86	...	6	...
14	Bulandshahr.	Khurja ...	**25,719**	718	727	**1,445**	56·18	48	1	...
15		Sikandrabad ...	**16,857**	488	480	**968**	57·42	...	...	...
16		Bulandshahr ...	**19,504**	523	522	**1,045**	53·58	13	...	...
17		Jahangirabad ...	**10,279**	284	246	**530**	51·56	1	1	7
18	Aligarh ...	Aligarh or Koil ...	**66,963**	1,560	1,468	**3,028**	45·22	110	85	...
19		Hathras ...	**38,763**	1,062	950	**2,012**	51·90	47	104	...
20		Atrauli ...	**13,018**	368	314	**682**	52·39	20	6	...
21	Muttra ...	Muttra ...	**48,724**	1,527	1,433	**2,960**	60·75	30	150	...
22		Brindaban ...	**14,632**	330	300	**630**	43·06	64	23	...
23	Agra ...	Agra ...	**163,750**	5,861	5,479	**11,340**	69·25	29	415	...
24		Firozabad ...	**20,183**	484	420	**904**	44·79	2	7	...
25	Mainpuri ...	Mainpuri ...	**14,352**	136	107	**243**	16·93	3	...	...
26		Shikohabad ...	**10,374**	180	166	**346**	33·35	...	24	...
27	Etah ...	Kasganj ...	**20,988**	562	511	**1,073**	51·12	8	49	...
28		Soron ...	**10,959**	373	332	**705**	64·33	8	9	...
29	Bareilly ...	Bareilly ...	**119,175**	2,710	2,242	**4,952**	41·55	36	33	37
30		Aonla ...	**13,132**	344	327	**671**	51·10	...	2	...
31	Bijnor ...	Nagina ...	**18,736**	463	442	**905**	48·30	16	177	15
32		Najibabad ...	**18,804**	522	463	**985**	52·38	39	162	...
33		Bijnor ...	**18,095**	474	486	**960**	53·05	...	82	...
34		Sherkot ...	**13,889**	206	192	**398**	28·65	58	1	..
35		Chandpur ...	**11,032**	336	350	**686**	62·18	...	...	7
36		Kiratpur ...	**14,869**	311	236	**547**	36·79	2	151	75
37	Budaun ,,	Ujhani ...	**11,186**	219	217	**436**	38·98	1	...	...
38		Budaun ...	**39,118**	1,087	1,036	**2,123**	54·27	6	3	4
39		Sahaswan ...	**15,972**	430	426	**856**	53·59	...	1	...
40	Moradabad	Moradabad ..	**82,671**	2,567	2,445	**5,012**	60·62	66	11	...
41		Sambhal ...	**41,585**	1,158	1,079	**2,237**	53·79	6	217	12
42		Amroha ...	**40,448**	1,213	1,167	**2,380**	58·84	3	88	2
43		Chandausi ...	**25,164**	674	592	**1,266**	50·31	48	3	3
44	Shahjahanpur.	Tilhar ...	**16,584**	421	440	**861**	51·92	21	99	11
45		Shahjahanpur ...	**68,782**	1,550	1,495	**3,045**	44·27	19	40	1

(*a*) Rates calculated on average population 12,943.

[Paragraphs 26 of Section V and 3—6, 10—13, and 17—22 of Section VI.]

ANNUAL

Deaths from ***different causes*** *and births registered in the* ***towns*** *such towns) of the United Provinces*

1	2	3	4	9	10	11	12			
							Injuries			
							Suicide.			
Number.	Districts.	Towns.	Population according to census of 1921.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.
		B.—Towns— (contd.).								
1	Dehra Dun	Dehra ...	**33,500**	249	100	389	5	1	11	1
2		Mussooree ...	**(a)8,297**	24	10	55	...	...	2	...
3	Saharanpur	Hardwar Union ...	**30,795**	699	120	166	...	1	10	...
4		Saharanpur ...	**62,261**	2,032	106	280	...	...	35	...
5		Deoband ...	**17,891**	470	32	24	...	...	10	...
6		Gangoh ...	**11,843**	334	19	24	...	...	1	...
7		Roorkee ...	**12,246**	306	35	66	...	...	6	1
8	Muzaffarnagar.	Kairana ...	**16,683**	450	3	11	...	...	3	...
9		Kandhla ...	**10,365**	222	1	3	...	...	...	...
10		Muzaffarnagar ...	**23,937**	479	33	36	...	...	22	...
11	Meerut ...	Meerut ...	**77,711**	1,267	140	728	...	...	13	...
12		Hapur ...	**20,388**	416	67	155	...	...	24	...
13		Ghaziabad ...	**15,343**	374	4	35	...	...	3	1
14	Bulandshahr.	Khurja ...	**25,719**	603	105	177	...	...	19	...
15		Sikandrabad ...	**16,857**	350	35	68	...	...	6	1
16		Bulandshahr ...	**19,504**	425	40	278	...	...	4	...
17		Jahangirabad ...	**10,279**	328	6	42	...	...	1	...
18	Aligarh ...	Aligarh or Koil ...	**66,963**	1,735	176	262	1	...	43	1
19		Hathras ...	**38,763**	539	208	276	2	3	53	...
20		Atrauli ...	**13,018**	192	136	6	...	...	...	...
21	Muttra ..	Muttra ...	**48,724**	1,179	176	565	1	1	52	1
22		Brindaban ...	**14,632**	378	90	141	...	...	16	1
23	Agra ...	Agra	**163,750**	3,296	435	2,166	8	4	235	1
24		Firozabad ...	**20,183**	268	39	59	...	...	3	1
25	Mainpuri ...	Mainpuri ...	**14,352**	114	...	2	...	...	...	...
26		Shikohabad ...	**10,374**	140	8	21	...	...	5	...
27	Etah ...	Kasganj ...	**20,988**	369	39	30	...	...	30	...
28		Soron ...	**10,959**	302	46	23	...	...	4	1
29	Bareilly ...	Bareilly ...	**119,175**	1,185	53	757	1	...	48	4
30		Aonla ...	**13,132**	290	26	41	...	1	10	2
31	Bijnor ...	Nagina ...	**18,736**	356	64	68	1	1	26	2
32		Najibabad ...	**18,804**	597	5	30	1	...	6	...
33		Bijnor ...	**18,095**	318	43	23	1	...	6	...
34		Sherkot ...	**13,889**	259	1	1	...	...	3	2
35		Chandpur ...	**11,032**	230	50	12	1	...	5	2
36		Kiratpur ..	**14,869**	149	51	69	...	1	13	...
37	Budaun ...	Ujhani ..	**11,186**	242	7	23	...	...	3	1
38		Budaun ...	**39,118**	899	77	171	1	...	37	...
39		Sahaswan ...	**15,972**	446	70	25	2	2	12	2
40	Moradabad	Moradabad ...	**82,671**	1,365	281	924	1	...	71	2
41		Sambhal ...	**41,585**	665	172	355	...	1	14	2
42		Amroha ...	**40,448**	742	125	173	1	...	24	1
43		Chandausi ...	**25,164**	360	154	178	5	...	...	1
44	Shahjahanpur.	Tilhar ...	**16,584**	298	16	109	...	...	10	3
45		Shahjahanpur ...	**68,782**	842	110	482	2	1	45	5

(a) Rates calculated on average population 12,943.

FORM No. VI.

(having a population of 10,000 *and upwards) and* **districts** *(exclusive of during the year* 1929 – (continued).

		13	14	15										16
				Ratio of deaths per 1,000 of population.										
Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory dis-eases.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean ratio of previous five years.	Number.
...	18	339	1,131	·21	·15	·72	7·43	2·98	11·61	·54	10·12	33·76	28·49	1
...	2	45	142	..	·46	...	1·85	·77	4·25	·15	3·48	10·97	9·02	2
...	11	315	1,383	1·88	·42	·03	22·70	3·90	5·39	·36	10·23	44·91	42·64	3
...	35	771	3,253	·08	·32	·06	32·64	1·70	4·50	·56	12·38	52·25	51·41	4
1	11	158	740	·56	·11	1·84	26·27	1·79	1·34	·61	8·83	41·36	35·80	5
..	1	30	473	·08	·34	5·07	28·20	1·60	2·03	·08	2·53	39·94	39·35	6
...	7	89	528	·24	·24	1·55	24·99	2·86	5·39	·57	7·27	43·12	37·14	7
...	3	33	515	...	·60	·30	26·97	·18	·66	·18	1·98	30·87	37·51	8
...	...	13	259	...	·58	1·35	21·42	·10	·29	...	1·25	24·99	36·22	9
...	22	43	645	·08	1·21	·04	20·01	1·38	1·50	·92	1·80	26·94	29·41	10
...	13	209	2,443	·23	·87	...	16·30	1·80	9·37	·17	2·69	31·44	24·62	11
...	24	115	852	·05	3·63	...	20·40	3·29	7·60	1·18	5·64	41·79	45·60	12
...	4	10	433	...	·39	...	24·37	·26	2·28	·26	·65	28·22	29·07	13
...	19	158	1,111	1·87	·04	...	23 44	4·08	6·88	·74	6·14	43·20	52·57	14
...	7	149	609	...	...	...	20·76	2·08	4·03	·41	8·84	36·13	50·42	15
...	4	14	774	·67	...	...	21·79	2·05	14·25	20	·72	39·68	40·58	16
1	2	3	390	·10	·10	·68	31·91	·58	4·09	·19	·29	37·94	31·54	17
...	45	299	2,712	1·64	1·27	...	25·91	2·63	3·91	·67	4 46	40·50	42·91	18
2	60	657	1,891	1·21	2·68	...	13 90	5·36	7·12	1·55	16·95	48·78	50·80	19
2	2	97	459	1·54	·46	...	14·75	10·45	·46	·15	7·45	35·26	43·25	20
2	57	507	2,664	·61	3·08	..	24·20	3·61	11·59	1·17	10·40	54·67	42·61	21
...	17	102	815	4·37	1·57	...	25·83	6·15	9·64	1·16	6·97	55·70	56·22	22
1	249	1,429	8,019	·18	2·53	..	20·13	2·65	13·23	1·52	8·73	48·97	43·82	23
...	4	198	577	·10	·35	...	13·28	1·93	2·92	·20	9·81	28·59	33·51	24
...	...	2	121	·21	...	...	7·94	...	·14	...	·14	8·43	14·98	25
...	5	2	200	...	2·31	...	13·49	·77	2·02	·48	·19	19·28	17·27	26
...	30	27	552	·38	2·33	...	17·58	1·86	1·43	1·43	1·29	26·30	26·97	27
...	5	83	476	·73	·82	...	27·56	4·20	2·10	·45	7·57	43·43	39·46	28
...	53	741	2,895	·30	·28	·31	9·94	·44	6·35	·44	6·22	24·29	24·55	29
...	13	89	461	...	·15	...	22·08	1·98	3·12	·99	6·78	35·10	47·70	30
...	30	104	830	·85	9·45	·80	19·00	3·41	3·63	1·60	5·55	44·30	37·66	31
...	7	191	1,031	2·07	8·61	...	31·75	·26	1·59	·37	10·16	54·83	45·97	32
...	7	232	705	..	4·53	...	17·57	2·38	1·27	·39	12·82	38·96	39·39	33
...	5	33	358	4·17	·07	...	18·65	·07	·07	·36	2·37	25·77	22·64	34
...	8	161	468	...	...	·63	20·85	4·53	1·09	·72	14·59	42·42	47·31	35
...	14	135	646	·13	10·15	5·04	10·02	3·43	4·64	·94	9·08	43·45	23·74	36
1	5	31	309	·09	..	...	21·63	·62	2·06	·45	2·77	27·62	31·32	37
2	40	388	1,588	·15	·08	·10	22·98	1·97	4·37	1·02	9·92	40·59	43·14	38
...	18	125	685	...	·06	...	27·92	4·38	1·56	1·13	7·83	42·89	43·34	39
1	75	559	3,281	·80	·13	...	16·51	3·40	11·18	·91	6·76	39·69	40·72	40
...	17	120	1,564	·14	5·22	·29	15·99	4·14	8·54	·41	2·88	37·61	47·99	41
...	26	334	1,493	·07	2·17	·05	18·34	3·09	4·28	·64	8·26	36·91	37·09	42
2	8	240	994	1·91	·12	·12	14·31	6·12	7·07	·32	9·53	39·50	43·70	43
2	15	182	751	1·27	5.97	·66	17·97	·96	6·57	·90	10·97	45·28	48·58	44
1	54	465	2,013	·28	·58	·01	12·24	1·60	7·01	·78	6·76	29·27	36·24	45

Paragraphs 26 of Section V and 3—6, 10—13 and 17—22 of Section VI.]

ANNUAL

Deaths from ***different causes*** *and births registered in the* ***towns*** *such towns) of the United Provinces during*

1	2	3	4	5				6	7	8
Number.	Districts.	Towns.	Population according to census of 1921.	Births. Male.	Births. Female.	Births. Total.	Birth-rate per 1,000 of population.	Cholera.	Small-pox.	Plague.
		B.—Towns— (contd.).								
46	Pilibhit ...	Pilibhit ...	**32,344**	916	846	**1,762**	54·48	49	24	2
47	Farrukhabad	Farrukhabad-cum-Fatehgarh.	**48,331**	1,336	1,314	**2,650**	54·83	40	30	...
48		Kanauj ...	**18,258**	296	269	**565**	30·94	1	6	...
49	Etawah ...	Etawah ...	**41,558**	1,228	1,177	**2,405**	57·87	5	35	...
50	Cawnpore ...	Cawnpore ...	**195,085**	3,749	3,457	**7,206**	36·94	49	105	2
51	Fatehpur ...	Fatehpur ...	**14,948**	411	391	**802**	53·65	7	1	1
52	Allahabad ...	Allahabad ...	**145,605**	3,529	3,214	**6,743**	46·31	180	95	1
53	Jhansi ...	Jhansi ...	**50,499**	1,726	1,594	**3,320**	65·74	48	6	...
54		Mau ...	**12,554**	384	329	**713**	56·79	54	7	...
55		Jhansi notified area.	**12,315**	300	204	**504**	40·92	...	2	...
56		Lalitpur ...	**11,504**	340	318	**658**	57·20	21	1	...
57	Jalaun ...	Kalpi ...	**10,037**	285	234	**519**	51·71	51	...	...
58		Konch ...	**14,503**	366	368	**734**	50·61	50	3	...
59	Hamirpur ...	Mahoba ...	**11,648**	277	227	**504**	43·27	120	...	...
60	Banda ...	Banda ...	**20,029**	253	213	**466**	23·27	63	4	...
61	Benares ...	Benares ...	**195,373**	5,182	5,129	**10,311**	52·77	252	109	37
62	Mirzapur ...	Mirzapur Bindhachal.	**54,994**	1,335	1,258	**2,593**	47·15	17	7	...
63	Jaunpur ...	Jaunpur ...	**32,569**	580	532	**1,112**	34·14	82	5	12
64	Ghazipur ...	Ghazipur ...	**24,708**	397	364	**761**	30·80	119	11	72
65		Sherpur ..	**10,236**	86	65	**151**	14·75	41	...	...
66	Ballia ...	Ballia ...	**18,215**	191	193	**384**	21·08	98	6	2
67	Gorakhpur...	Gaura Barhaj	**12,497**	217	206	**423**	33·85	137	1	...
68		Gorakhpur...	**50,498**	1,265	1,240	**2,505**	49·60	135	7	27
69	Basti ...	Basti ...	**17,691**	207	204	**411**	23·23	20	6	49
70	Azamgarh ...	Mubarakpur	**12,500**	259	244	**503**	40·24	115	...	25
71		Azamgarh ...	**14,788**	246	256	**502**	33·95	49	1	46
72		Mau ...	**17,998**	359	357	**716**	39·78	58	1	276
73	Naini Tal ...	Naini Tal ...	(b) **10,392**	148	117	**265**	19·70	...	2	...
74		Kashipur ...	**10,576**	154	172	**326**	30·82	5	2	...
75	Lucknow ...	Lucknow ...	**217,167**	4,891	4,661	**9,552**	43·98	62	373	111
76	Unao ...	Unao ...	**11,147**	228	189	**417**	37·41	4	51	...
77	Rae Bareli ...	Rae Bareli ...	**16,183**	379	369	**748**	46·22	5	29	...
78	Sitapur ...	Khairabad ...	**11,522**	270	238	**508**	44·09	...	...	137
79		Laharpur ...	**11,185**	244	223	**467**	41·75	4	6	2
80		Sitapur ...	**18,432**	463	429	**892**	48·39	18	17	43
81	Hardoi ...	Shahabad ...	**18,696**	398	365	**763**	40·81	127	...	...
82		Sandila ...	**14,074**	369	314	**683**	48·53	101	33	231
83		Hardoi ...	**14,412**	202	220	**422**	29·28	22	48	...
84	Kheri ...	Lakhimpur...	**12,396**	217	166	**383**	30·90	17	1	44
85	Fyzabad ...	Fyzabad-Ajodhya.	**51,342**	672	611	**1,283**	24·99	116	22	2
86		Tanda ...	**18,258**	387	383	**770**	42·17	26	1	1
87	Gonda ...	Gonda ...	**13,228**	248	179	**427**	32·28	32	1	...
88		Balrampur ...	**16,131**	334	322	**656**	40·67	5	...	...
89	Bahraich ...	Bahraich ...	**27,371**	496	525	**1,021**	37·30	148	2	3
90		Nanpara ...	**10,924**	214	201	**415**	37·99	72	...	209
91	Bara Banki ..	Nawabganj...	**12,369**	225	192	**417**	33·71	17	3	...
92		Rudauli ...	**10,327**	209	198	**407**	39·41	4	...	103
		Total of Towns	**3,032,984**	73,736	69,076	**142,812**	47·09	3,455	3,254	1,773
		Total of Rural districts.	**42,342,803**	750,545	664,369	**1,414,914**	33·41	47,469	8,471	35,905
		Total for the Province	**45,375,787**	824,281	733,445	**1,557,726**	34·33	50,924	11,725	37,678

(b) Rates calculated on average population 13,454.

FORM NO. VI.

(*having a population of* 10,000 *and upwards*) *and* **districts** (*exclusive of the year* 1929—(continued).

9	10	11	12						13	14	15			
			Injuries.								Ratio of deaths per 1,000 of population.			
			Suicide.											
Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Number.
671	123	593	...	1	7	1	...	**9**	168	**1,639**	1·51	·74	·06	46
462	194	711	1	...	70	3	1	**75**	649	**2,161**	·83	·62	...	47
179	32	77	...	...	5	...	...	**5**	91	**391**	·05	·33	...	48
811	124	258	1	1	39	1	...	**42**	649	**1,924**	·12	·84	...	49
4,492	374	3,478	4	2	73	4	...	**83**	1,698	**10,281**	·25	·54	·01	50
351	49	44	...	...	20	1	1	**22**	143	**618**	·47	·07	·07	51
1,892	335	1,258	1	1	29	1	1	**33**	1,803	**5,597**	1·24	·65	·01	52
1,223	71	241	...	...	35	1	1	**37**	638	**2,264**	·95	·12	...	53
284	28	85	...	1	10	...	1	**12**	137	**607**	4·30	·56	...	54
154	27	64	...	...	12	...	...	**12**	78	**337**	...	·16	...	55
376	25	22	...	...	16	1	...	**17**	95	**557**	1·82	·09	...	56
170	22	118	...	...	14	...	...	**14**	70	**445**	5·08	...	...	57
152	11	199	...	...	3	3	3	**9**	42	**466**	3·45	·21	...	58
249	3	19	...	...	4	1	...	**5**	6	**402**	10·30	...	...	59
172	3	62	...	...	15	...	...	**15**	122	**441**	3·14	·20	...	60
6,011	1,175	2,230	1	6	237	10	...	**254**	2,422	**12,490**	1·29	·56	·19	61
827	195	136	...	...	48	3	...	**51**	285	**1,518**	·31	·13	...	62
522	101	162	3	...	41	9	1	**54**	155	**1,093**	2·52	·15	·37	63
307	51	63	...	1	20	1	...	**22**	53	**698**	4·82	·44	2·91	64
49	...	...	...	...	2	2	...	**4**	5	**99**	4·00	...	...	65
84	29	1	...	...	12	2	...	**14**	135	**369**	5·38	·33	·11	66
170	50	15	...	...	4	...	...	**4**	40	**417**	10·96	·08	...	67
1,115	83	182	...	4	36	2	...	**42**	451	**2,042**	2·67	·14	·53	68
220	4	52	...	2	6	...	3	**11**	100	**462**	1·13	·34	2·77	69
102	38	66	...	...	8	1	2	**11**	58	**415**	9·20	...	2·00	70
220	39	42	...	...	16	1	...	**17**	79	**493**	3·31	·07	3·11	71
110	22	63	...	...	4	2	...	**6**	117	**653**	3·22	·05	15·33	72
51	10	107	1	...	5	...	...	**6**	69	**245**	...	·15	...	73
88	66	158	...	...	6	3	...	**9**	60	**388**	·47	·19	...	74
6,485	998	3,386	2	1	147	4	2	**156**	4,892	**16,463**	·28	1·72	·51	75
209	9	9	...	...	3	...	...	**3**	96	**381**	·36	4·57	...	76
320	38	143	...	...	17	1	...	**18**	59	**612**	·31	1·79	...	77
194	28	18	...		2	1	...	**3**	112	**492**	...	...	11·89	78
201	5	3	...	...	5	2	...	**7**	41	**269**	·36	·54	·18	79
468	53	23	...	...	20	...	2	**22**	226	**870**	·98	·92	2·33	80
282	17	15	...	...	5	...	...	**5**	100	**546**	6·79	...	...	81
249	46	50	...	...	22	1	...	**23**	166	**899**	7·18	2·34	16·41	82
202	21	16	...	...	7	...		**7**	51	**367**	1·53	3·33	...	83
147	7	10	...	...	8	...	...	**8**	25	**259**	1·37	·08	3·55	84
604	188	304	...	...	48	2	6	**56**	337	**1,629**	2·26	43	·04	85
411	84	106	...	...	29	1	...	**30**	161	**820**	1·42	·05	·05	86
204	1	...	...	...	5	1	...	**6**	105	**349**	2·42	·07	...	87
251	8	163	8	8	42	7	15	**80**	49	**556**	·31	...	...	88
473	30	58	...	...	18	4	...	**22**	130	**866**	5·41	·07	·11	89
223	15	20	...	...	4	...	...	**4**	98	**641**	6·59	...	19·13	90
147	8	38	...		3	...	...	**3**	47	**263**	1·37	·24	...	91
233	22	56	...	...	9	1	1	**11**	65	**494**	·39	...	9·97	92
59,600	8,376	24,453	56	45	2,135	117	58	**2,411**	27,205	**130,527**	1·14	1·07	·58	
750,983	6,489	9,079	582	1,234	11,685	4,567	364	**18,432**	93,329	**970,157**	1·12	·20	·85	
810,583	14,865	33,532	638	1,279	13,820	4,684	422	**20,843**	120,534	**1,100,684**	1·12	·26	·83	

Paragraphs 26 of Section V and 3—6, 10—13 and 17—22 of Section VI.]

ANNUAL FORM NO. VI.

Deaths from **different causes** *and births registered in the* **towns** *(having a population of* 10,000 *and upwards) and* **districts** *(exclusive of such towns) of the United Provinces during the year* 1929—(concluded).

1	2	3	4	15						
				Ratio of deaths per 1,000 of population.						
Number.	Districts.	Towns.	Population according to census of 1921.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean ratio of previous five years
		B.—Towns— (concld.).								
46	Pilibhit ...	Pilibhit ...	**32,344**	20·74	3·80	18·33	·28	5·19	**50·67**	**47·60**
47	Farrukhabad	Farrukhabad-cum-Fatehgarh.	**48,331**	9·56	4·01	14·71	1·55	13·43	**44·71**	**45·32**
48		Kanauj ...	**18,258**	9·80	1·75	4·22	·27	4·98	**21·41**	**26·90**
49	Etawah ...	Etawah ...	**41,558**	19·51	2·98	6·21	1·01	15·62	**46·30**	**49·85**
50	Cawnpore ...	Cawnpore ...	**195,085**	23·02	1·92	17·83	·42	8·70	**52·70**	**46·37**
51	Fatehpur ...	Fatehpur ...	**14,948**	23·48	3·28	2·94	1·47	9·56	**41·34**	**31·83**
52	Allahabad ...	Allahabad ...	**145,605**	12·99	2·30	8·64	·23	12·38	**38·44**	**30·80**
53	Jhansi ...	Jhansi ...	**50,499**	24·22	1·40	4·77	·73	12·63	**44·83**	**37·85**
54		Mau ...	**12,554**	22·62	2·23	6·77	·95	10·91	**48·35**	**37·76**
55		Jhansi notified area.	**12,315**	12·50	2·19	5·20	·97	6·33	**27·36**	(c)
56		Lalitpur ...	**11,504**	32·68	2·17	1·91	1·48	8·26	**48·42**	**38·31**
57	Jalaun ...	Kalpi ...	**10,037**	16·94	2·19	11·76	1·39	6·97	**44·33**	**38·04**
58		Konch ...	**14,503**	10·48	·76	13·72	·62	2·89	**32·13**	**34·20**
59	Hamirpur ...	Mahoba ...	**11,648**	21·38	·26	1·63	·43	·51	**34·51**	**26·80**
60	Banda ...	Banda ...	**20,029**	8·59	·15	3·09	·75	6·09	**22·02**	**20·56**
61	Benares ...	Benares ...	**195,373**	30·77	6·01	11·41	1·30	12·40	**63·93**	**51·89**
62	Mirzapur ...	Mirzapur-Bindhachal.	**54,994**	15·04	3·54	2·47	·93	5·18	**27·60**	**26·59**
63	Jaunpur ...	Jaunpur ...	**32,569**	16·03	3·10	4·97	1·66	4·76	**33·56**	**22·02**
64	Ghazipur ...	Ghazipur ...	**24,708**	12·42	2·06	2·55	·89	2·14	**28·25**	**18·03**
65		Sherpur ..	**10,236**	4·79	...	...	·39	·49	**9·67**	**18·62**
66	Ballia ...	Ballia ...	**18,215**	4·61	1·59	·05	·77	7·41	**20·26**	**18·96**
67	Gorakhpur ...	Gaura Barhaj	**12,497**	13·60	4·00	1·20	·32	3·20	**33·37**	**20·80**
68		Gorakhpur ...	**50,498**	22·08	1·64	3·60	·83	8·93	**40·44**	**36·40**
69	Basti ...	Basti ...	**17,691**	12·43	·23	2·94	·62	5·65	**26·11**	**16·99**
70	Azamgarh ...	Mubarakpur	**12,500**	8·16	3·04	5·28	·88	4·64	**33·20**	**29·02**
71		Azamgarh ...	**14,788**	14.88	2·64	2·84	1·15	5·34	**33·34**	**24·82**
72		Mau ...	**17,998**	6·11	1·22	3·50	·33	6·50	**36·28**	**20·08**
73	Naini Tal ...	Naini Tal ...	(b) **10,392**	3·79	·74	7·95	·44	5·13	**18·21**	**20·04**
74		Kashipur ...	**10,576**	8·32	6·24	14·94	·85	5·67	**36·69**	**35·65**
75	Lucknow ...	Lucknow ...	**217,167**	29·86	4·59	15·59	·72	22·53	**75·81**	**40 88**
76	Unao ...	Unao ...	**11,147**	18·75	·81	·81	·27	8·61	**34·18**	**31·40**
77	Rae Bareli ...	Rae Bareli ...	**16,183**	19·77	2·35	8·84	1·11	3·64	**37·82**	**35·80**
78	Sitapur ...	Khairabad ...	**11,522**	16·84	2·43	1·56	·26	9·72	**42·70**	**36·29**
79		Laharpur ...	**11,185**	17·97	·45	·27	·62	3·66	**24·05**	**26 72**
80		Sitapur ...	**18,432**	25·39	2·87	1·25	1·19	12·26	**47·20**	**41·56**
81	Hardoi ...	Shahabad ...	**18,696**	15·08	·91	·80	·27	5·35	**29·20**	**40·35**
82		Sandila ...	**14,074**	17·69	3·27	3·55	1·63	11·79	**63·88**	**39·67**
83		Hardoi ...	**14,412**	14·01	1·46	1·11	·48	3·54	**25·46**	**24·71**
84	Kheri ...	Lakhimpur	**12,396**	11·86	·56	·81	·64	2·02	**20·89**	**24·67**
85	Fyzabad ...	Fyzabad-Ajodhya.	**51,342**	11·76	3·66	5·92	1·09	6·56	**31.73**	**24·78**
86		Tanda ...	**18,258**	22·51	4·60	5·80	1·64	8·82	**44·91**	**36·50**
87	Gonda ...	Gonda ...	**13,228**	15·42	.07	...	·45	7·94	**26·38**	**19·53**
88		Balrampur ...	**16,131**	15·56	·49	10·10	4·96	3·04	**34·47**	**34·69**
89	Bahraich ...	Bahraich ...	**27,371**	17·28	1·10	2·12	·80	4·75	**31·64**	**23 32**
90		Nanpara ...	**10,924**	20·41	1·37	1·83	·37	8·97	**58·68**	**34·12**
91	Bara Banki...	Nawabganj	**12,369**	11·88	·65	3·07	·24	3·80	**21·26**	**19·08**
92		Rudauli ...	**10,327**	22·56	2·13	5·42	1·06	6·29	**47·83**	**34·88**
		Total of Towns	**3,032,984**	19·65	2·76	8 06	·79	8·97	**43·03**	**37·83**
		Total of rural districts.	**42,342,803**	17·73	·15	·21	43	2·20	**22·91**	**24 07**
		Total for the Province.	**45,375,787**	17·86	·33	·74	·46	2·66	**24·26**	**24·98**

(b) Rates calculated on average population 13,454.

(c) Population increased in 1929.

Paragraphs 23 of Section V and 14 and 23 of Section VI.]

SUPPLEMENTARY ANNUAL FORM NO. VI(*a*).

Deaths registered from **certain causes** *in the* **towns** *(having a population of* 10,000 *and upwards) and* **districts** *(exclusive of such towns) of the United Provinces, during the year,* 1929.

1	2	3	4		5		6	
Number.	Districts and Towns.	Population according to census of 1921.	Malaria.		Enteric fever.		Measles.	
			Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	A.—Rural districts.							
	MEERUT DIVISION.							
1	Dehra Dun	**170,446**	1,886	11·06	193	1·13	12	·07
2	Saharanpur	**802,435**	19,117	23·82	18	·02	23	·03
3	Muzaffarnagar	**743,280**	14,015	18·85	62	·08	245	·33
4	Meerut	**1,385,632**	29,662	21·41	19	·01	443	·32
5	Bulandshahr	**994,160**	20,990	21·11	41	·04	685	·69
	AGRA DIVISION.							
6	Aligarh	**943,001**	18,177	19·27	202	·21	369	·39
7	Muttra	**555,782**	7,632	13·73	223	·40	446	·80
8	Agra	**740,222**	12,586	17·00	43	·06	375	·50
9	Mainpuri	**723,301**	11,294	15·61	..	..	136	·19
10	Etah	**797,813**	12,977	16·26	89	.11	571	·71
	ROHILKHAND DIVISION.							
11	Bareilly	**881,568**	24,081	27·32	62	·07	126	·14
12	Bijnor .. .	**644,757**	16,457	25·52	58	·09	351	·54
13	Budaun	**909,071**	18,614	20·47	23	·02	134	·15
14	Moradabad	**1,008,785**	23,648	23·44	110	·11	459	·45
15	Shahjahanpur	**753,749**	18,713	24·83	59	·07	205	·27
16	Pilibhit	**399,257**	13,319	33·36	76	·19	42	·10
	ALLAHABAD DIVISION.							
17	Farrukhabad	**790,044**	14 599	18·48	137	·17	48	·06
18	Etawah	**691,974**	9,514	13·75	43	·06	189	·27
19	Cawnpore	**953,579**	12,335	12·93	92	·10	571	·60
20	Fatehpur	**637,444**	6,275	9·84	97	·15	175	·27
21	Allahabad	**1,258,840**	11,913	9·46	1,191	·95	173	·14
	JHANSI DIVISION.							
22	Jhansi	**519,627**	10,504	20·21	267	·51	46	·09
23	Jalaun	**380,899**	2,235	5·87	53	·14	29	·08
24	Hamirpur	**453,675**	5,394	11·89	21	·05	39	·08
25	Banda	**568,007**	6,821	12·01	18	·03	64	·11
	BENARES DIVISION.							
26	Benares	**756,658**	11,418	15·09	27	·03	9	·01
27	Mirzapur	**669,189**	10,425	15·58	5	·01	12	·02
28	Jaunpur	**1,122,536**	14,794	13·18	46	·04	84	·07
29	Ghazipur	**746,626**	10,395	13·92	75	·10	85	·11
30	Ballia	**812,794**	7,099	8·73	721	·89	64	·08
	GORAKHPUR DIVISION.							
31	Gorakhpur	**3,203,835**	39,569	12·35	552	·17	142	·04
32	Basti	**1,907,537**	26,361	13·82	35	·02	228	·12
33	Azamgarh	**1,482,726**	21,887	14·76	223	·15	120	·08
	KUMAUN DIVISION.							
34	Naini Tal	**255,907**	7,370	28·80	152	·59	8	·03
35	Almora	**530,338**	8,582	16·18	173	·33	64	·12
36	Garhwal	**485,186**	11,125	22·93	..	..	7	·01
	LUCKNOW DIVISION.							
37	Lucknow	**507,177**	10,896	21·48	96	·19	231	·45
38	Unao ...	**807,981**	12,239	15·15	64	·08	459	·57
39	Rae Bareli	**920,220**	12,029	13·07	206	·23	171	·18
40	Sitapur	**1,048,342**	18,012	17·18	16	·01	146	·14
41	Hardoi	**1,037,228**	16,144	15·56	56	·05	369	·35
42	Kheri	**901,079**	21,263	23·60	622	·69	75	·08
	FYZABAD DIVISION.							
43	Fyzabad	**1,102,975**	7,065	6·40	198	·18	331	·30
44	Gonda	**1,443,739**	15,897	11·01	314	·22	250	·17
45	Bahraich ...	**1,027,082**	21,236	20·68	126	·12	118	·11
46	Sultanpur	**1,003,912**	19,880	19·80	36	·03	232	·23
47	Partabgarh	**855,130**	12,367	14·46	11	·01	111	·13
48	Bara Banki	**1,007,258**	15,417	15·30	48	·05	610	·60
	Total of rural district ...	**42,342,803**	694,228	16·39	7,001	·16	9,882	·23

Paragraphs 23 o ection V and 14 and 23 of Section VI.]

SUPPLEMENTARY

Deaths registered from **Certain Causes** *in the* **Towns** *(having a of the United Provinces*

1	2	3	7		8		9		10	
Number.	Districts and towns.	Population according to census of 1921.	Relapsing fever.		Kala Azar.		Other fevers.		Dysentery.	
			Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	A.—Rural Districts—(concluded).									
	MEERUT DIVISION.									
1	Dehra Dun ...	170,446	...	...	...	...	733	4·30	39	·23
2	Saharanpur ...	802,435	1	...	...	...	1,367	1·70	7	·01
3	Muzaffarnagar ...	743,280	...	...	2	...	207	·28	16	·02
4	Meerut	1,385,632	..	...	...	..	718	·52	16	·01
5	Bulandshahr ...	994,160	1	...	..	...	630	·63	65	·06
	AGRA DIVISION.									
6	Aligarh	943,001	1	...	...	...	81	·08	22	·02
7	Muttra	555,782	5	·01	2	...	795	1·43	15	·03
8	Agra	740,222	9	·01	...	...	671	·91	21	·03
9	Mainpuri ...	723,301	...	...	...	...	25	·03	3	...
10	Etah	797,813	6	·01	..	...	105	·13	22	·03
	ROHILKHAND DIVISION.									
11	Bareilly	881,568	...	...	4	...	110	·12	18	·02
12	Bijnor	644,757	3	...		...	79	·12	43	·07
13	Budaun	909,071	...	...	13	·01	10	·01	11	·01
14	Moradabad ...	1,008,785	...	...	1	..	2,013	1·99	69	·07
15	Shahjahanpur ...	753,749	..	...	31	.04	81	·11	4	...
16	Pilibhit	399,257	...	...	11	·03	5	·01	17	·04
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	790,044	..	...	...	...	168	·21	2	...
18	Etawah	691,974	3	...	..	...	74	·11	4	..
19	Cawnpore ...	953,579	2	...	...	...	264	·28	10	·01
20	Fatehpur ...	637,444	4	·01	...	...	18	·03	18	·03
21	Allahabad ...	1,258,840	3	...	5	...	662	·52	21	·02
	JHANSI DIVISION.									
22	Jhansi	519,627	1	...	...	...	575	1·11	30	·06
23	Jalaun	380,899	...	...	...	...	2,741	7·20	8	·02
24	Hamirpur ...	453,675	..	...	...	...	1,955	4·31	4	·01
25	Banda	568,007	1	...	1	...	399	·70	5	·01
	BENARES DIVISION.									
26	Benares	756,658	...	...	1	...	95	·12	9	·01
27	Mirzapur	669,189	1	...	...	...	285	·42	17	·02
28	Jaunpur ...	1,122,536	1	...	1	...	1,349	1·20	30	·03
29	Ghazipur ...	746,626	4	..	...	...	21	·03	29	·04
30	Ballia	812,794	20	·02	16	·02	1,587	1·94	254	·31
	GORAKHPUR DIVISION.									
31	Gorakhpur ...	3,203,835	4	...	11	...	5,081	1·58	148	·05
32	Basti	1,907,537	...	...	...	...	9	...	36	·02
33	Azamgarh ...	1,482,726	...	...	1	...	67	·04	113	·08
	KUMAUN DIVISION.									
34	Naini Tal ...	255,907	206	·80	3	·01	304	1·19	64	·25
35	Almora	530,338	...	...	...	...	2,860	5·39	418	·79
36	Garhwal	485,186	...	...	...	...	703	1·45	1,989	4·10
	LUCKNOW DIVISION.									
37	Lucknow ...	507,177	3	...	20	·04	377	·74	47	·09
38	Unao	807,981	5	·01	9	·01	139	·17	42	·05
39	Rae Bareli ...	920,220	3	...	76	·08	41	·04	31	·03
40	Sitapur	1,048,342	...	...	13	·01	28	·03	6	...
41	Hardoi	1,037,228	9	·01	15	·01	57	·05	12	·01
42	Kheri	901,079	6	·01	...	..	74	·08	16	·02
	FYZABAD DIVISION.									
43	Fyzabad	1,102,975	4	...	10	·01	10,604	9·61	63	·06
44	Gonda	1,443,739	2	.	11	·01	39	·03	16	·01
45	Bahraich ...	1,027,082	...	...	...	...	21	·02	28	·03
46	Sultanpur ...	1,003,912	...	...	16	·01	17	·02	185	·18
47	Partabgarh ...	855,130	...	...	...	...	1	...	16	·02
48	Bara Banki ...	1,007,258	...	...	1	...	1,045	1·04	38	·04
	TOTAL OF RURAL DISTRICTS.	42,342,803	308	·01	274	·01	39,290	·93	4,097	·10

ANNUAL FORM No. VI (*a*).

population of 10,000 *and upwards*) *and* **districts** (*exclusive of such towns*) *during the year* 1929—(contd.).

11		12		13		14		15	16			17	18
Diarrhoea.		Pneumonia.		Phthisis.		Other respiratory diseases.		Deaths from child birth. *	Deaths under one year.			Infant mortality rate.	Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
113	·66	33	·19	6	·03	171	1·00	7	400	319	719	167·64	1
49	·06	35	·04	8	·01	158	·20	43	3,185	2,975	6,160	174·27	2
65	·09	...	...	7	·01	82	·11	30	2,429	2,070	4,499	143·24	3
46	·03	1	...	4	.	261	·18	37	5,308	4,652	9,960	182·31	4
132	·13	5	...	4	...	230	·23	52	3,853	3,384	7,237	171·57	5
75	·08	23	·02	32	·03	96	·10	18	2,922	2,445	5,367	144·61	6
157	·28	3	..	4	·01	120	·21	26	1,340	1,060	2,400	121·02	7
22	·03	17	·02	20	·03	110	·15	14	2,437	1,841	4,278	151·61	8
11	·01	1	...	9	·01	23	·03	5	1,782	1,428	3,210	133·01	9
158	·20	9	·01	44	·05	181	·23	30	2,310	1,946	4,256	155·28	10
45	·05	20	·02	21	·02	101	·11	9	3,660	3,288	6,948	190·44	11
58	·09	13	·02	19	·03	119	·18	36	3,126	2,711	5,837	203·46	12
46	·05	7	·01	2	...	72	·08	13	3,010	2,543	5,553	158·84	13
165	·16	4	...	21	·02	358	·35	41	4,157	3,925	8,082	176·73	14
19	·02	4	...	3	...	49	·06	4	3,184	2,715	5,899	197·09	15
18	·04	...	...	7	·01	43	·11	13	1,968	1,600	3,568	234·70	16
36	·04	11	·01	13	·02	77	·10	9	2,998	2,366	5,364	186·87	17
13	·02	...	...	3	...	74	·11	10	2,198	1,796	3,994	156·67	18
8	·01	14	·01	8	·01	67	·07	5	2,026	1,597	3,623	145·58	19
21	·03	1	..	3	...	118	·18	7	1,749	1,364	3,113	149·88	20
39	·03	22	·02	24	·02	131	·10	16	2,938	2,225	5,163	143·51	21
22	·04	8	·01	30	·06	90	·17	15	1,942	1,863	3,805	174·80	22
9	·02	16	·04	3	·01	149	·39	1	1,080	908	1,988	141·39	23
28	·06	91	·20	1	...	2,327	5·13	11	1,527	1,347	2,874	158·81	24
30	·05	.	...	1	...	45	·08	7	1,292	995	2,287	126·88	25
7	·01	3	...	...	...	51	·07	3	2,411	1,916	4,327	169·47	26
26	·04	2	...	...	...	41	·06	10	2,215	1,808	4,023	168·42	27
14	·01	25	·02	17	·01	48	·04	7	3,124	2,316	5,440	163·26	28
16	·02	...	...	23	·03	37	·05	10	1,943	1,545	3,488	140·96	29
66	·08	5	·01	23	·03	96	·12	22	1,747	1,288	3,035	128·42	30
33	·01	1	..	11	...	202	·06	36	6,840	5,130	11,970	120·85	31
34	·02	1	...	9	...	79	·04	12	4,621	3,831	8,452	150·91	32
18	·01	...	...	6	...	143	·10	22	3,456	2,866	6,322	141·54	33
32	·12	31	·12	12	·05	117	·46	20	960	896	1,856	264·05	34
348	·66	58	·11	57	·11	455	·86	36	1,725	1,562	3,287	146·20	35
114	·23	31	·06	36	·07	311	·64	29	2,049	1,857	3,906	180·61	36
27	·05	5	·01	7	·01	183	·36	13	1,761	1,591	3,352	190·84	37
24	·03	5	·01	12	·01	142	·17	1	2,078	1,679	3,757	166·33	38
2	...	21	·02	6	·01	31	·03	2	1,559	1,133	2,692	117·40	39
17	·02	13	·01	5	...	59	·06	9	2,471	2,104	4,575	144·70	40
36	·03	...	...	1	..	73	·07	25	2,554	2,190	4,744	154·95	41
45	·05	4	..	30	·03	109	·12	5	2,442	1,969	4,411	150·23	42
6	...	4	...	19	·02	65	·06	9	2,828	2,330	5,158	163·91	43
32	·02	..	...	3	...	95	·03	18	1,883	1,625	3,508	112.55	44
21	·02	1	...	4	...	51	·05	3	2,812	2,388	5,200	167·73	45
49	·05	...	...	12	·01	147	·15	...	3,071	2,476	5,547	188·90	46
2	...	...	...	4	...	43	·05	...	2,282	1,751	4,033	166·16	47
38	·04	...	...	21	·02	86	·08	7	2,236	1,758	3,994	144·45	48
2,392	·06	548	·01	615	·01	7,916	·19	758	121,889	101,372	223,261	157·79	

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

Paragraphs 23 of Section V and 14 and 23 of Section VI.]

SUPPLEMENTARY

Deaths registered from **certain causes** *in the* **towns** *(having a of the United Provinces*

1	2	3	4	5		6		7	
Number.	Districts.	Towns.	Population according to census of 1921.	Malaria.		Enteric fever.		Measles.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		B.—Towns.							
1	Dehra Dun	Dehra ...	**33,500**	32	·95	6	·18	5	·15
2		Mussooree ...	(*a*) **8,297**	1	·08	3	·23	1	·08
3	Saharanpur	Hardwar Union	**30,795**	6	·19	14	·45	32	1·04
4		Saharanpur ...	**62,261**	1	·02	3	·05	25	·40
5		Deoband ...	**17,891**	...	...	...	...	...	...
6		Gangoh ...	**11,843**	191	16·13	5	·42	20	1·69
7		Roorkee ...	**12,246**	...	...	...	...	...	...
8	Muzaffarnagar.	Kairana ...	**16,683**	...	...	...	...	...	...
9		Kandhla ...	**10,365**	205	19·78	16	1·54	1	·10
10		Muzaffarnagar ...	**23,937**	368	15·37	15	·63	13	·54
11	Meerut ...	Meerut ...	**77,711**	...	..	2	·02	9	·11
12		Hapur ...	**20,388**	367	18·00	...	...	49	2·40
13		Ghaziabad ...	**15,343**	334	21·77	35	2·28	...	...
14	Bulandshahr.	Khurja ..	**25,719**	506	19·67	88	3·42	8	·31
15		Sikandrabad ...	**16,857**	289	17·14	...	...	45	2·67
16		Bulandshahr ...	**19,504**	207	10·61	2	·10	137	7·02
17		Jahangirabad ...	**10,279**	176	17·12	14	1·36	132	12·84
18	Aligarh ...	Aligarh or Koil...	**66,963**	...	...	26	·39	77	1·15
19		Hathras ...	**38,763**	3	·08	123	3·17	60	1·55
20		Atrauli ...	**13,018**	174	13·37	17	1·30	1	·08
21	Muttra ...	Muttra ..	**48,724**	8	·16	142	2·91	56	1·15
22		Brindaban ...	**14,632**	338	23·10	1	·07	15	1·02
23	Agra ...	Agra ...	**163,750**	291	1·78	352	2·15	258	1·57
24		Firozabad ...	**20,183**	3	·15	1	·05	82	4·06
25	Mainpuri ...	Mainpuri ..	**14,352**	93	6·48	...	...	19	1·32
26		Shikohabad ...	**10,374**	130	12·53	...	...	3	·29
27	Etah ...	Kasganj ...	**20,988**	330	15·72	30	1·00	7	·33
28		Soron ...	**10,959**	...	...	...	...	...	...
29	Bareilly ...	Bareilly ...	**119,175**	155	1·31	...	...	2	·02
30		Aonla ...	**13,132**	226	17·21	12	·91	2	·15
31	Bijnor ...	Nagina ...	**18,736**	257	13·72	17	·91	66	3·52
32		Najibabad ...	**18,804**	9	·48	4	·21	74	3·93
33		Bijnor ...	**18,095**	196	10·83	...	...	65	3·59
34		Sherkot ...	**13,889**	195	14·04	12	·86	52	3·74
35		Chandpur ...	**11,032**	221	20·03	1	·09	8	·72
36		Kiratpur ...	**14,869**	12	·81	...	...	19	1·28
37	Budaun ...	Ujhani ...	**11,186**	219	19·58	1	·09	21	1·88
38		Budaun ...	**39,118**	554	14·16	7	·18	12	·31
39		Sahaswan ...	**15,972**	340	21·29	...	...	104	6·51
40	Moradabad	Moradabad ...	**82,671**	1,180	14·27	7	·08	7	·08
41		Sambhal ...	**41,585**	580	13·95	...	...	85	2·04
42		Amroha ...	**40,448**	368	9·10	37	·91	15	·37
43		Chandausi ...	**25,164**	272	10·81	15	·60	6	·24
44	Shahjahanpur.	Tilhar ...	**16,584**	...	...	...	...	...	...
45		Shahjahanpur ...	**68,782**	43	·62	57	·83	133	1·93

(*a*) Rates calculated on average population 12,943.

ANNUAL FORM No. VI (*a*).
population of 10,000 *and upwards) and* **districts** (*exclusive of such towns*) *during the year* 1929—(contd.).

8		9		10		11		12		13		14		15
Relapsing fever.		Kala Azar.		Other fevers.		Dysentery.		Diarrhoea.		Pneumonia.		Phthisis.		
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Number.
...	...	...	...	206	6·15	31	·92	69	2·06	232	6·92	77	2·30	1
...	...	...	...	19	1·46	2	·15	8	·62	34	2·63	9	·69	2
...	...	...	...	647	21·01	55	1·79	65	2·11	73	2·37	46	1·49	3
...	...	...	...	2,003	32·17	13	·21	93	1·49	49	·79	2	·03	4
...	...	...	...	470	26·27	2	·11	30	1·68	...	..	2	·11	5
1	·08	3	·25	114	9·62	6	·51	13	1·10	10	84	5	·42	6
...	...	...	...	306	24·99	7	·57	28	2·29	...	...	...	...	7
1	·06	...	...	449	26·91	1	·06	2	·12	..	...	2	·12	8
...	...	...	..	...	...	...	..	1	·10	...	...	...	...	9
...	...	...	...	83	3·47	8	·33	25	1·04	...	...	...	...	10
...	...	...	...	1,256	16·16	17	·22	123	1·58	52	·67	274	3·52	11
...	...	...	...	...	...	...	...	67	3·29	...	...	6	·29	12
...	..	...	...	5	·32	2	·13	2	·13	...	...	...	...	13
..	...	...	...	1	·04	38	1·48	67	2·60	33	1·28	55	2·14	14
..	...	...	..	16	·95	5	·30	30	1·78	7	·41	38	2·25	15
...	...	...	...	79	4·05	9	·46	31	1·59	...	...	...	...	16
...	...	..	.	6	·58	2	·19	4	·39	...	..	...	...	17
...	...	...	...	1,632	24·37	23	·34	153	2·28	122	1·82	50	·75	18
...	...	...	...	353	9·11	11	·28	197	5·08	118	3·04	62	1·60	19
...	...	...	...	...	...	32	2·46	104	7·99	...	...	...	...	20
...	...	...	...	973	19·97	39	·80	137	2·81	181	3·71	127	2·61	21
..	..	...	...	24	1·64	13	·89	77	5·26	43	2·94	8	·55	22
...	...	...	...	2,395	14·63	101	·62	334	2·04	1,207	7·37	462	2·82	23
...	...	...	...	182	9·02	4	·20	35	1·73	...	...	...	...	24
...	...	...	...	2	·14	...	...	...	...	...	..	...	...	25
...	...	...	...	7	·67	...	...	8	·77	15	1·44	...	...	26
2	·09	...	...	...	...	2	·09	37	1·76	...	...	2	·09	27
...	...	...	...	302	27·56	...	...	46	4·20	...	...	...	...	28
...	...	...	...	1,028	8·62	35	·29	18	·15	91	·76	267	2·24	29
...	...	...	...	50	3·81	7	·53	19	1·45	1	·08	...	...	30
...	...	...	...	16	·85	12	·64	52	2·77	17	·91	7	·37	31
...	...	...	...	510	27·12	5	·26	...	...	...	...	...	...	32
3	·16	...	...	54	2·98	15	·83	28	1·55	3	·16	...	...	33
...	...	...	...	...	...	...	...	1	·07	...	...	...	...	34
...	...	...	...	...	..	21	1·90	29	2·63	...	.	...	...	35
...	...	...	...	118	7·93	18	1·21	33	2·22	35	2·35	...	...	36
...	...	...	...	1	·09	4	·36	3	·27	...	...	...	...	37
...	...	...	..	326	8·33	21	·54	56	1·43	46	1·17	43	1·10	38
...	...	...	...	2	·12	3	·19	67	4·19	...	...	5	·31	39
...	...	...	...	171	2·07	69	·83	212	2·56	1	·01	7	·08	40
...	...	...	...	...	...	45	1·08	127	3·05	43	1·03	62	1·49	41
...	...	...	...	322	7·96	77	1·90	48	1·19	4	·10	47	1·16	42
...	...	...	...	67	2·66	4	·16	150	5·96	46	1·83	42	1·67	43
...	...	...	...	298	17·97	8	·48	8	·48	6	·36	39	2·35	44
...	...	...	...	609	8·85	38	·55	72	1·05	64	·93	170	2·47	45

Paragraphs 23 of Section V and 14 and 23 of Section VI.]

SUPPLEMENTARY ANNUAL FORM No. VI (*a*).

Deaths registered from **certain causes** *in the* **towns** *(having a population of* 10,000 *and upwards) and* **districts** *(exclusive of such towns) of the United Provinces during the year* 1929—(contd.).

1	2	3	4	16		17	18			19
Number.	Districts.	Towns.	Population according to census of 1921.	Other respiratory diseases. Deaths.	Other respiratory diseases. Ratio.	Deaths from child-birth*	Deaths under one year. Male.	Deaths under one year. Female.	Deaths under one year. Total.	Infant mortality rate.
		B.—Towns. (contd.).								
1	Dehra Dun	Dehra ...	**33,500**	80	2·39	7	151	132	283	214·23
2		Mussooree ..	**(a)8,297**	12	·93	...	19	10	29	167·63
3	Saharanpur	Hardwar Union.	**30,795**	47	1·53	7	188	177	365	316·29
4		Saharanpur	**62,261**	229	3·68	29	605	587	1,192	340·08
5		Deoband ...	**17,891**	22	1·23	9	119	101	220	177·28
6		Gangoh ...	**11,843**	9	·76	3	81	79	160	256·41
7		Roorkee ..	**12,246**	66	5·39	9	83	67	150	262·70
8	Muzaffarnagar.	Kairana ...	**16,683**	9	·54	6	88	89	177	222·92
9		Kandhla ...	**10,365**	3	·29	...	44	22	66	177·42
10		Muzaffarnagar	**23,937**	36	1·50	5	119	112	231	205·70
11	Meerut ...	Meerut ...	**77,711**	402	5·17	14	402	332	734	231·18
12		Hapur ...	**20,388**	149	7·31	.	156	144	300	270·27
13		Ghaziabad ...	**15,343**	35	2·28	3	67	72	139	206·54
14	Bulandshahr.	Khurja ..	**25,719**	89	3·46	7	196	187	383	265·05
15		Sikandrabad	**16,857**	23	1·36	6	119	105	224	231·40
16		Bulandshahr	**19,504**	278	14·25	7	150	130	280	267·94
17		Jahangirabad	**10,279**	42	4·09	3	58	34	92	173·58
18	Aligarh ...	Aligarh or Koil.	**66,963**	90	1·34	21	492	402	894	295·24
19		Hathras ...	**38,763**	96	2·48	26	305	265	570	283·30
20		Atrauli ...	**13,018**	6	·46	6	97	81	178	261·00
21	Muttra ...	Muttra ...	**48,724**	257	5·27	19	481	378	859	290·20
22		Brindaban...	**14,632**	90	6·15	9	83	78	161	255·55
23	Agra ...	Agra ...	**163,750**	497	3·03	72	1,362	1,267	2,629	231·83
24		Firozabad ...	**20,183**	59	2·92	9	114	77	191	211·28
25	Mainpuri	Mainpuri ...	**14,352**	2	·14	2	17	17	34	139·92
26		Shikohabad	**10,374**	6	·58	2	28	9	37	106·94
27	Etah ...	Kasganj ...	**20,988**	28	1·33	13	104	92	196	182·66
28		Soron ...	**10,959**	23	2·10	7	105	76	181	256·74
29	Bareilly ...	Bareilly ...	**119,175**	399	3·35	24	394	376	770	155·49
30		Aonla ...	**13,132**	40	3·04	8	77	83	160	238·45
31	Bijnor ...	Nagina ...	**18,736**	44	2·35	6	142	133	275	303·87
32		Najibabad ...	**18,804**	30	1·59	7	160	140	300	304·57
33		Bijnor ...	**18,095**	20	1·10	6	106	116	222	231·25
34		Sherkot ...	**13 889**	1	·07	1	44	34	78	195·98
35		Chandpur ...	**11,032**	12	1·09	2	83	76	159	231·78
36		Kiratpur ...	**14,869**	34	2·29	7	86	61	147	268·74
37	Budaun ...	Ujhani ...	**11,186**	23	2·06	..	58	46	104	238·53
38		Budaun ...	**39,118**	82	2·10	16	306	285	591	278·38
39		Sahaswan ...	**15,972**	20	1·25	4	154	124	278	324·77
40	Moradabad	Moradabad...	**82,671**	916	11·08	52	617	517	1,134	226·26
41		Sambhal ...	**41,585**	250	6·01	10	309	231	540	241·39
42		Amroha ...	**40,448**	122	3·01	19	284	247	531	223·11
43		Chandausi ...	**25,164**	90	3·58	9	186	165	351	277·25
44	Shahjahanpur.	Tilhar ...	**16,584**	64	3·86	8	141	125	266	308·94
45		Shahjahanpur	**68,782**	248	3·60	38	353	318	671	220·36

(*a*) Rates calculated on average population 12,943.

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

SUPPLEMENTARY ANNUAL FORM No. VI (*a*)—(*contd.*).

Deaths registered from **certain causes** *in the* **towns** *(having a population of* 10,000 *and upwards) and* **districts** *(exclusive of such towns) of the United Provinces during the year* 1929—(contd.).

1	2	3	4	5		6		7	
Number.	Districts.	Towns.	Population according to census of 1921.	Malaria.		Enteric fever.		Measles.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		B.—Towns—(concld.).							
46	Pilibhit ..	Pilibhit ...	**32,344**	358	11·07	4	·12	55	1·70
47	Farrukhabad.	Farrukhabad-cum-Fatehgarh.	**48,331**	310	6·41	5	·10	18	·37
48		Kanauj ...	**18,258**	150	8·21	8	·44	7	·38
49	Etawah ...	Etawah ...	**41,558**	51	1·23	9	·22	...	...
50	Cawnpore...	Cawnpore .	**195,085**	6	·03	27	·14	331	1·70
51	Fatehpur ...	Fatehpur ..	**14,948**	...	..	2	·13	10	·67
52	Allahabad...	Allahabad ...	**145,605**	..	..	34	·23	137	·94
53	Jhansi ...	Jhansi ...	**50,499**	1	·02	..	..	40	·79
54		Mau	**12,554**	280	22·30	4	·32	...	...
55		Jhansi (notified area).	**12,315**	2	·16	..	..	31	2·52
56		Lalitpur ..	**11,504**	363	31·55	11	·96	2	·17
57	Jalaun ..	Kalpi ...	**10,037**	144	14·35	.	...	26	2·59
58		Konch ..	**14,503**	15	1·03	..	...	8	·55
59	Hamirpur...	Mahoba ..	**11,648**	243	20·86	..	...	6	·51
60	Banda ...	Banda ..	**20,029**	7	·35	...	...	8	·40
61	Benares ...	Benares ...	**195,373**	740	3·79	44	·22	199	1·02
62	Mirzapur ...	Mirzapur Bindhachal.	**54,994**	808	14·69	1	·02	7	·12
63	Jaunpur ...	Jaunpur ..	**32,569**	14	·43	18	·55	...	...
64	Ghazipur ...	Ghazipur ...	**24,708**	288	11·66	2	·08	17	·69
65		Sherpur ..	**10,236**	49	4·79	...	..	...	...
66	Ballia ...	Ballia ...	**18,215**	75	4·12	7	·38	...	...
67	Gorakhpur	Gaura Barhaj	**12,497**	167	13·36	...	...	1	·08
68		Gorakhpur ...	**50,498**	...	...	...	...	6	·12
69	Basti ...	Basti ..	**17,691**	...	...	...	...	6	·34
70	Azamgarh...	Mubarakpur ...	**12,500**	85	6·80	10	·80	7	·56
71		Azamgarh ...	**14,788**	185	12·51	24	1·62	4	·27
72		Mau.	**17,998**	105	5·83	3	·17	2	·11
73	Naini Tal...	Naini Tal ...	(*b*)**10,392**	4	·30	3	·22	3	·22
74		Kashipur ...	**10,576**	31	2·93	26	2·46	4	·38
75	Lucknow ...	Lucknow ...	**217,167**	914	4·21	12	·05	37	·17
76	Unao ...	Unao ..	**11,147**	57	5·11	1	·08	...	...
77	Rae Bareli	Rae Bareli ...	**16,183**	148	9·14	17	1·05	...	...
78	Sitapur .	Khairabad ...	**11,522**	160	13·89	20	1·73	14	1·21
79		Laharpur ...	**11,185**	...	...	..	...	1	·09
80		Sitapur ...	**18,432**	...	...	...	...	65	3·53
81	Hardoi ...	Shahabad ..	**18,696**	242	12·94	...	...	40	2·14
82		Sandila ...	**14,074**	230	16·34	1	·07	18	1·28
83		Hardoi ...	**14,412**	176	12·21	13	·90	13	·90
84	Kheri ...	Lakhimpur ...	**12,396**	86	6·94	47	3·79	..	...
85	Fyzabad ...	Fyzabad-Ajodhya.	**51,342**	..	..	...	..	13	·25
86		Tanda ...	**18,258**	395	21·63	2	·11	13	·71
87	Gonda ..	Gonda ...	**13,228**	202	15·27	..	...	2	·15
88		Balrampur ..	**16,131**	144	8·93	99	6·14	6	·37
89	Bahraich ...	Bahraich ..	**27,371**	382	13·96	6	·22	20	·73
90		Nanpara ...	**10,924**	199	18·22	13	1·19	5	·46
91	Bara Banki	Nawabganj ...	**12,369**	24	1·94	1	·08	9	·73
92		Rudauli ..	**10,327**	186	18.01	...	...	47	4·55
		Total of towns	**3,032,984**	16,906	5·57	1,539	·51	2,964	·98
		Total of Rural districts.	**42,342,803**	694,228	16·39	7,001	·16	9,882	·23
		Total for the Province.	**45,375,787**	711,134	15·67	8,540	·19	12,846	·28

(*b*) Rates calculated on average population **13,454.**

Paragraphs 23 of Section V and 14 aud 23 of Section VI.]

SUPPLEMENTARY

Deaths registered from **certain causes** *in the* **towns** *(having a of the United Provinces*

1	2	3	4	8		9		10		11	
Number.	Districts.	Towns.	Population according to census of 1921.	Relapsing fever.		Kala Azar.		Other fevers.		Dysentery.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		B.—Towns—(concld.)									
46	Pilibhit ...	Pilibhit ...	**32,344**	...	...	...	...	254	7·85	42	1·30
47	Farrukhabad.	Farrukhabad-cum-Fatehgarh.	**48,331**	...	...	...	...	129	2·67	45	·93
48		Kanauj ...	**18,258**	...	...	.	...	14	·77	3	·16
49	Etawah ...	Etawah ...	**41,558**	...	...	.	.	751	18·07	11	·26
50	Cawnpore ...	Cawnpore ...	**195,085**	...	...	...	...	4,128	21·16	124	·63
51	Fatehpur ..	Fatehpur ...	**14,948**	...	...	...	...	339	22·68	22	1·47
52	Allahabad ...	Allahabad ..	**145,605**	...	...	...	...	1,721	11·81	110	·75
53	Jhansi ...	Jhansi ...	**50,499**	...	..	..	...	1,182	23·41	19	·38
54		Mau ...	**12,554**	...	...	...	...	...	...	...	...
55		Jhansi (notified area).	**12,315**	...	...	..	..	121	9·82	1	·08
56		Lalitpur ...	**11,504**	..	...	...	...	..	..	6	·52
57	Jalaun ...	Kalpi ...	**10,037**	...	...	...	.	...	...	2	·20
58		Konch ...	**14,503**	...	...	...	...	129	8·89	...	...
59	Hamirpur...	Mahoba ...	**11,648**	...	...	...	...	...	...	3	·26
60	Banda ...	Banda ...	**20,029**	...	...	...		157	7·84	2	·10
61	Benares ...	Benares ...	**195,373**	...	..	11	·06	5,017	25·68	427	2·18
62	Mirzapur ...	Mirzapur Bindhachal.	**54,994**	..	..	...	...	11	·20	29	·53
63	Jaunpur ...	Jaunpur ...	**32,569**	2	·06	2	·06	486	14·92	80	2·46
64	Ghazipur ...	Ghazipur ...	**24,708**	...	...	...	...	...	...	32	1·29
65		Sherpur ..	**10,236**	...	..	..	..	..	..	..	..
66	Ballia ...	Ballia ...	**18,215**	...	..	...	...	2	·11	12	·66
67	Gorakhpur	Gaura Barhaj	**12,497**	...	..	...	...	2	·16	34	2·72
68		Gorakhpur ..	**50,498**	...	.	.	.	1,109	21·96	40	·79
69	Basti ...	Basti ...	**17,691**	..	...	...	...	214	12·10	3	·17
70	Azamgarh..	Mubarakpur	**12,500**	..	...	...	...	...	..	19	1·52
71		Azamgarh ...	**14,788**	1	·07	...	...	6	·40	15	1·01
72		Mau ...	**17,998**	...	...	...	...	...	...	8	·44
73	Naini Tal...	Naini Tal	(*b*)**10,392**	...	...	...	...	41	3·05	9	·67
74		Kashipur ...	**10,576**	27	2·55	...	...	...	...	13	1·23
75	Lucknow ...	Lucknow ...	**217,167**	1	...	...	...	5,521	25·42	550	2·53
76	Unao ...	Unao ...	**11,147**	...	...	...	...	151	13·55	9	·81
77	Rae Bareli	Rae Bareli ...	**16,183**	...	...	...	...	155	9·58	27	1·67
78	Sitapur ...	Khairabad ...	**11,522**	...	..	...	...	...	...	22	1·91
79		Laharpur .	**11,185**	..	...	...	...	200	17·88	2	·18
80		Sitapur ...	**18,432**	.	...	...	...	403	21·86	12	·65
81	Hardoi ...	Shahabad ...	**18,696**	...	..	...	...	...	...	...	...
82		Sandila ...	**14,074**	...	...	...	...	...	...	20	1·42
83		Hardoi ...	**14,412**	...	.	.	...	..	..	3	·21
84	Kheri ...	Lakhimpur...	**12,396**	...	...	...	...	14	1·13	2	·16
85	Fyzabad ...	Fyzabad Ajodhya.	**51,342**	...	...	...	...	591	11·51	119	2·32
86		Tanda ...	**18,258**	1	·05	...	...	...	...	52	2·85
87	Gonda ...	Gonda ...	**13,228**	...	...	.	..	...	...	1	·07
88		Balrampur...	**16,131**	...	..	2	·12	...	...	7	·43
89	Bahraich ...	Bahraich ..	**27,371**	...	...	...	.	65	2·37	9	·33
90		Nanpara ...	**10,924**	...	...	..	...	6	·55	4	·37
91	Bara Banki	Nawabganj...	**12,369**	..	...	...	...	113	9·13	4	·32
92		Rudauli ...	**10,327**	...	...	...	...	..	...	12	1·16
		Total of towns	**3,032,984**	39	·01	18	...	38,134	12·57	2,771	·91
		Total of rural districts.	**42,342,803**	308	·01	274	·01	39,290	·93	4,097	·10
		Total for the Province.	**45,375,787**	347	·01	292	·01	77,424	1·71	6,868	·15

(*b*) Rates calculated on average population, 13,454.

ANNUAL FORM No. VI (*a*).

population of 10,000 *and upwards*) *and* **districts** (*exclusive of such towns*) *during the year* 1929—(concld.).

12		13		14		15		16	17			18	19
Diarrhoea.		Pneumonia.		Phthisis.		Other respiratory diseases.		Deaths from child birth.*	Deaths under one year.			Infant mortality rate.	Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
81	2·50	..	...	...	...	593	18·33	13	255	222	477	270·71	46
149	3·08	331	6·85	218	4·50	162	3·35	17	423	368	791	298·49	47
29	1·59	5	·27	26	1·42	46	2·52	6	74	46	120	212·39	48
113	2·72	74	1·78	71	1·71	113	2·72	8	437	361	798	331·81	49
250	1·28	1,747	8·95	796	4·08	935	4·79	81	1,649	1,380	3,029	420·34	50
27	1·81	..	..	..	...	44	2·94	8	110	88	198	246·88	51
225	1·54	185	1·27	348	2·39	725	4·98	47	924	821	1,745	258·79	52
52	1·03	56	1·11	56	1·11	129	2·55	12	548	413	961	289·46	53
28	2·23	...	..	...	...	85	6·77	4	113	92	205	287·52	54
26	2·11	20	1·62	21	1·70	23	1·87	7	69	53	122	242·06	55
19	1·65	..	...	...	...	22	1·91	6	77	71	148	224·92	56
20	1·99		...	18	1·79	100	9·96	...	86	60	146	281·31	57
11	·76	62	4·27	10	·69	127	8·76	..	80	76	156	212·53	58
...	...	...	..	..	...	19	1·63	..	42	29	71	140·87	59
1	·05	...	...	...	..	62	3·09	2	61	59	120	257·51	60
748	3·83	134	·68	561	2·87	1,535	7·86	116	1,748	1,494	3,242	314·42	61
166	3·02	1	·02	1	·02	134	2·44	13	316	250	566	218·28	62
21	·64	4	·12	37	1·14	121	3·71	6	131	107	238	214·03	63
19	·77	..	...	37	1·50	26	1·05	6	92	69	161	211·56	64
...	...	...	..	...	...	...	...	...	6	1	7	46·36	65
17	·93	...	...	...	..	1	·05	5	53	33	86	223·96	66
16	1·28	...	..	...	...	15	1·20	2	40	30	70	165·48	67
43	·85	13	·26	124	2·45	45	·89	12	290	310	600	239·52	68
1	·06	15	·85	24	1·36	13	·73	1	29	41	70	170·32	69
19	1·52	42	3·36	12	·96	12	·96	1	56	39	95	188·87	70
24	1·62	...	...	3	·20	39	2·64	4	58	49	107	213·15	71
14	·78	..	..	34	1·89	29	1·61	6	71	47	118	164·80	72
1	.07	67	4·98	16	1·19	24	1·78	8	30	25	55	207·55	73
53	5·01	...		5	·47	153	14·47	8	49	47	96	294·48	74
448	2·06	2,083	9·59	643	2·96	660	3·04	207	2,315	2,167	4,482	469·22	75
...	...	...	...	...	...	9	·81	...	65	65	130	311·75	76
11	·68	35	2·16	25	1·54	83	5·13	4	89	107	196	262·03	77
6	·52	...	...	1	·08	17	1·47	...	61	62	123	242·12	78
3	·27	1	·09	...	...	2	·18	1	53	39	92	197·00	79
41	2·22	...	...	...	..	23	1·25	6	145	115	260	291·48	80
17	·91	..	...	...	...	15	·80	8	91	73	164	214·94	81
26	1·85	...	...	...	...	50	3·55	...	111	99	210	307·47	82
18	1·24	...	...	...	...	16	1·11	2	58	58	116	274·88	83
5	·40	.	...	2	·16	8	·64	2	39	21	60	156·66	84
69	1·34	12	·23	33	·64	259	5·04	22	270	187	457	356·20	85
32	1·75	1	·05	36	1·97	69	3·78	3	150	112	262	340·26	86
...	...	...	...	...		...	...	...	44	41	85	199·06	87
1	·06	9	·56	18	1·11	136	8·43	1	77	81	158	240·85	88
21	·77	5	·18	20	·73	33	1·20	9	94	92	186	182·17	89
11	1·01		..	..	..	20	1·83	2	52	55	107	257·83	90
4	·32	7	·56	14	1·13	17	1·37	2	38	26	64	153·48	91
10	·97	1	·10	...	...	55	5·32	3	53	49	102	250·61	92
5,605	1·85	7,443	2·45	5,126	1·69	11,884	3·92	1,189	21,055	18,329	39,384	275·77	
2,392	·06	548	·01	615	·01	7,916	·19	758	121,889	101,372	223,261	157·79	
7,997	·18	7,991	·18	5,741	·13	19,800	·44	1,947	142,944	119,701	262,645	168·61	

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

Deaths registered from **cholera** *in the districts of the*

1	2	3		4						
		Circles of registration.		Villages.						
Number.	District.	Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.
	MEERUT DIVISION.									
1	Dehra Dun ...	14	3	494	3	...	...	...	1	28
2	Saharanpur ...	30	15	1,618	15		2	...	7	23
3	Muzaffarnagar ...	28	9	928	13	...		...	1	3
4	Meerut	45	18	1,534	25	...	...	1	4	5
5	Bulandshahr ...	34	20	1,417	32	...	...	...	...	4
	AGRA DIVISION.									
6	Aligarh	37	21	1,748	73	...	...	1	1	...
7	Muttra	32	16	891	26	...	...	11	8	2
8	Agra	37	16	1,233	20	1	...	2	8	46
9	Mainpuri	23	7	1,368	8	..	...	...	9	14
10	Etah	31	13	1,551	14		...	2	3	4
	ROHILKHAND DIVISION.									
11	Bareilly	31	23	2,196	44	..	...	...	2	1
12	Bijnor	31	23	2,154	39	1	...	2	10	11
13	Budaun	28	17	1,659	26		...	...	...	...
14	Moradabad	34	21	2,657	35	...	...	...	...	...
15	Shahjahanpur ...	23	19	2,388	116	...	...	...	1	4
16	Pilibhit ...	15	15	1,094	123	...	...	5	...	2
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	24	10	1,717	11	..	1	2	3	28
18	Etawah	25	8	1,487	8	...	1	1	1	2
19	Cawnpore	28	21	1,972	91	..	..	...	1	9
20	Fatehpur	16	13	1,436	69	..	...	...	15	11
21	Allahabad	35	31	3,864	348	...	1	4	236	433
	JHANSI DIVISION.									
22	Jhansi	35	27	1,323	158		...	..	13	58
23	Jalaun	14	10	848	27	.	...	...	...	...
24	Hamirpur	23	10	798	22	..	...	...	...	1
25	Banda	24	20	1,231	44	..	...	..	...	32
	BENARES DIVISION.									
26	Benares	19	17	2,117	147	...	...	43	164	216
27	Mirzapur	23	21	3,142	151	...	...	17	64	150
28	Jaunpur	22	22	3,169	293	3	1	3	574	1,134
29	Ghazipur	22	21	2,390	322	..	...	1	39	271
30	Ballia	19	19	1,740	260	..	...	15	54	391
	GORAKHPUR DIVISION.									
31	Gorakhpur	47	42	7,208	391	2	2	16	353	649
32	Basti	25	24	6,921	491	60	58	24	256	443
33	Azamgarh	34	29	4,809	368	2	...	...	42	320
	KUMAUN DIVISION.									
34	Naini Tal	19	10	1,650	18	26	...	1	5	5
35	Almora	6	2	5,082	7	..	...	...	...	...
36	Garhwal	15	12	3,605	91	1	...	...	...	33
	LUCKNOW DIVISION.									
37	Lucknow	15	11	937	28	..	...	1	2	7
38	Unao	19	5	1,715	28	7	...	1	3	54
39	Rae Bareli	14	11	1,748	96	2	..	8	3	64
40	Sitapur	24	16	2,311	25	..	...	7	14	12
41	Hardoi	25	22	1,897	80	1	5	4	..	...
42	Kheri	18	16	1,731	187	..	4	...	4	8
	FYZABAD DIVISION.									
43	Fyzabad	23	22	2,951	444	32	2	11	76	570
44	Gonda	25	25	2,910	346	8	...	53	671	697
45	Bahraich	19	18	1,894	148	...	...	...	9	59
46	Sultanpur	14	14	2,490	410	..	...	4	393	766
47	Partabgarh ...	16	14	2,188	210	..	...	7	447	1,132
48	Bara Banki ...	23	18	2,070	114	1	...	1	5	196
	Total for the Province	1,183	817	106,281	6,045	147	77	248	3,502	7,898

FORM No. VII.

United Provinces during each month of the year 1929.

5							6			7			8	9
							Total.			Ratio of deaths per 1,000 of population.				
June.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
11	3	3	4	...	...	...	36	14	**50**	·28	·17	**·23**	**·13**	1
16	2	12	30	1	...	...	63	30	**93**	·12	·07	**·10**	**·07**	2
...	1	16	9	10	...	...	26	14	**40**	·06	·04	**·05**	**·01**	3
5	1	36	42	5	...	...	52	47	**99**	·06	·07	**·07**	**·16**	4
10	13	81	67	25	...	...	92	108	**200**	·16	·21	**·19**	**·42**	5
66	23	150	77	34	...	...	175	177	**352**	·30	·36	**·33**	**·36**	6
3	...	68	95	16	1	...	95	109	**204**	·28	·39	**·33**	**·12**	7
46	2	3	4	4	...	..	63	53	**116**	·12	·13	**·12**	**·11**	8
2	...	...	5	...	..	...	15	15	**30**	·04	·04	**·04**	**·38**	9
3	2	24	33	6	...	...	44	33	**77**	·10	·09	**·09**	**·30**	10
1	13	81	678	454	42	28	659	641	**1,300**	1·21	1·37	**1·28**	**·16**	11
17	35	70	112	23	5	1	164	123	**287**	·42	·35	**·39**	**·06**	12
...	9	40	40	11	1	1	45	57	**102**	·08	·13	**·10**	**·07**	13
6	60	48	132	23	...	1	160	110	**270**	·25	·20	**·22**	**·06**	14
29	38	293	614	517	61	...	781	776	**1,557**	1·72	2·01	**1·85**	**·29**	15
...	2	613	893	836	334	117	1,335	1,467	**2,802**	5·83	7·24	**6·49**	**·18**	16
21	10	6	4	1	1	...	38	39	**77**	·08	·10	**·09**	**·37**	17
2	2	...	4	3	...	...	7	9	**16**	·02	·02	**·02**	**·30**	18
9	11	115	291	245	245	17	471	472	**943**	·74	·92	**·82**	**·22**	19
145	51	8	83	50	...	...	198	165	**363**	·58	·53	**·56**	**·10**	20
300	111	107	167	65	3	2	768	666	**1,434**	1·06	·98	**1·02**	**·32**	21
263	467	600	202	47	7	2	811	848	**1,659**	2·57	2·91	**2·73**	**·43**	22
22	49	136	22	...	...	...	98	131	**229**	·46	·68	**·56**	**·69**	23
29	117	100	52	3	...	...	143	159	**302**	·60	·69	**·65**	**·89**	24
190	233	17	3	1	...	...	268	208	**476**	·89	·72	**·81**	**1·44**	25
198	322	191	129	33	10	1	725	582	**1,307**	1·49	1·25	**1·37**	**·99**	26
56	258	191	48	26	2	...	391	421	**812**	1·08	1·16	**1·12**	**1·44**	27
671	368	271	50	81	25	1	1,648	1,534	**3,182**	2·87	2·64	**2·75**	**1·68**	28
810	893	521	303	127	22	...	1,465	1,522	**2,987**	3·67	3·98	**3·80**	**·98**	29
790	998	492	109	50	3	8	1,458	1,452	**2,910**	3·42	3·59	**3·50**	**1·28**	30
686	1,207	848	233	120	107	55	2,134	2,144	**4,278**	1·29	1·33	**1·31**	**1·49**	31
787	467	86	72	120	288	220	1,425	1,456	**2,881**	1·45	1·55	**1·50**	**1·27**	32
498	862	468	398	200	60	5	1,410	1,445	**2,855**	1·81	1·92	**1·87**	**1·46**	33
...	2	16	23	6	...	2	57	29	**86**	·35	·25	**·31**	**·29**	34
...	12	32	2	...	...	...	19	27	**46**	·07	·10	**·09**	**·69**	35
169	119	114	11	...	...	...	214	233	**447**	·92	·92	**·92**	**·88**	36
75	26	37	44	9	7	..	123	85	**208**	·31	·26	**·29**	**·39**	37
59	20	34	61	8	1	...	132	116	**248**	·30	·30	**·30**	**·61**	38
68	48	73	90	76	82	88	285	317	**602**	·60	·71	**·64**	**·67**	39
13	1	22	116	29	6	...	114	106	**220**	·19	·21	**·20**	**·10**	40
2	79	475	239	88	8	..	445	456	**901**	·76	·91	**·83**	**·60**	41
6	103	376	585	267	72	...	725	700	**1,425**	1·49	1·63	**1·56**	**·30**	42
489	311	279	133	336	697	585	1,827	1,694	**3,521**	3·10	2·90	**3·00**	**1·85**	43
283	164	225	115	44	163	79	1,255	1,247	**2,502**	1·66	1·73	**1·70**	**·66**	44
226	193	392	146	105	2	...	622	510	**1,132**	1·12	1·00	**1·06**	**·22**	45
275	62	25	72	117	73	17	962	842	**1,804**	1·94	1·65	**1·80**	**1·89**	46
410	211	155	33	31	31	12	1,248	1,221	**2,469**	2·99	2·79	**2·89**	**·96**	47
155	193	254	62	91	65	...	526	497	**1,023**	·98	1·01	**·99**	**·36**	48
7,922	8,174	8,204	6,737	4,344	2,429	1,242	25,817	25,107	**50,924**	1·08	1·16	**1·12**	**·68**	

Paragraph 5 of Section VI.]

ANNUAL

Deaths registered from **small-pox** *in the districts*

1	2	3		4		5						
		Circles of registration.		Villages.								
Number.	District.	Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February.	March.	April.	May.	June.	July.
	MEERUT DIVISION.											
1	Dehra Dun ...	14	4	494	4	...	1	1	3	6	1	1
2	Saharanpur ...	30	16	1,618	23	1	2	5	9	18	15	4
3	Muzaffarnagar ...	28	15	928	27	6	12	16	13	34	13	8
4	Meerut	45	30	1,534	82	46	36	46	90	154	126	33
5	Bulandshahr ...	34	24	1,417	102	16	43	120	274	288	185	73
	AGRA DIVISION.											
6	Aligarh ...	37	30	1,748	59	81	69	100	172	141	59	11
7	Muttra	32	26	891	61	19	63	72	176	229	108	15
8	Agra	37	27	1,233	83	53	79	214	406	182	53	13
9	Mainpuri ...	23	18	1,368	36	10	15	30	28	32	32	15
10	Etah	31	27	1,551	506	32	79	75	264	302	195	102
	ROHILKHAND DIVISION.											
11	Bareilly	31	12	2,196	12	...	1	2	5	5	11	8
12	Bijnor	31	22	2,154	35	4	21	24	212	272	122	142
13	Budaun	28	17	1,659	74	1	...	...	2	15	17	41
14	Moradabad ...	34	23	2,657	84	9	17	74	158	141	107	44
15	Shahjahanpur ...	23	14	2,388	30	10	4	32	46	45	28	10
16	Pilibhit	15	4	1,094	5	1	2	1	3	6	5	11
	ALLAHABAD DIVISION.											
17	Farrukhabad ...	24	8	1,717	12	5	1	5	8	13	7	4
18	Etawah	25	15	1,487	33	2	4	8	22	34	15	18
19	Cawnpore ...	28	11	1,972	22	43	30	32	45	20	13	1
20	Fatehpur ...	16	7	1,436	13	...	...	...	4	3	4	1
21	Allahabad ...	35	22	3,864	58	2	9	15	27	49	40	24
	JHANSI DIVISION.											
22	Jhansi	35	15	1,323	23	..	...	6	7	11	7	2
23	Jalaun	14	8	848	19	...	...	...	...	24	1	4
24	Hamirpur ...	23	1	798	1	...	...	...	...	1	...	...
25	Banda	24	3	1,231	3	...	..	...	...	2	1	1
	BENARES DIVISION.											
26	Benares	19	7	2,117	11	2	4	8	29	20	24	23
27	Mirzapur ...	23	8	3,142	15	4	4	2	...	2	11	5
28	Jaunpur ...	22	17	3,169	17	14	9	21	24	25	20	17
29	Ghazipur ...	22	13	2,390	21	4	5	14	45	24	22	28
30	Ballia	19	16	1,740	41	25	11	14	28	31	21	13
	GORAKHPUR DIVISION.											
31	Gorakhpur ...	47	24	7,208	33	...	8	15	25	40	13	3
32	Basti	25	6	6,921	15	2	6	8	15	5	8	...
33	Azamgarh ...	34	21	4,809	73	15	13	37	34	48	23	14
	KUMAUN DIVISION.											
34	Naini Tal ...	19	6	1,650	10	..	2	...	..	4	3	4
35	Almora	6	4	5,082	15	1	2	2	3	11	8	1
36	Garhwal ...	15	7	3,605	15	...	5	2	4	5	7	2
	LUCKNOW DIVISION.											
37	Lucknow ..	15	10	937	29	41	54	95	109	77	57	20
38	Unao	19	3	1,715	4	1	6	13	17	25	32	20
39	Rae Bareli ...	14	7	1,748	12	...	...	8	8	8	8	4
40	Sitapur	24	6	2,311	7	1	3	4	6	7	6	4
41	Hardoi	25	13	1,897	24	6	15	26	42	38	29	22
42	Kheri ...	18	6	1,731	10	...	2	3	2	6	3	5
	FYZABAD DIVISION											
43	Fyzabad ...	23	15	2,951	317	...	12	23	27	74	22	16
44	Gonda	25	7	2,910	7	...	...	2	2	3	...	2
45	Bahraich ...	19	3	1,894	3	2	...	...	1	...	...	...
46	Sultanpur ...	14	8	2,490	16	...	...	7	9	1	...	...
47	Partabgarh ..	16	8	2,188	13	1	1	5	4	10	11	6
48	Bara Banki ...	23	6	2,070	6	..	..	2	2	5	2	5
	Total for the Province	1,183	520	106,281	2,131	460	650	1,189	2,410	2,496	1,495	805

FORM No. VIII.

of the United Provinces during each month of the year 1929.

					6			7		8			9	10
					Total.			Number of deaths among children.		Ratio of deaths per 1,000 of population.				
August.	September.	October.	November.	December.	Male.	Female.	Total.	Under one year.	One to 10 years.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
...	...	...	...	...	9	4	**13**	3	8	·07	·05	**·06**	**·17**	1
2	4	4	2	45	56	55	**111**	49	62	·11	·13	**·12**	**·10**	2
7	1	3	7	66	111	75	**186**	63	50	·25	·21	**·23**	**·14**	3
27	3	3	33	294	479	412	**891**	221	540	·59	·60	**·59**	**·12**	4
29	13	5	26	213	721	564	**1,285**	445	678	1·28	1·12	**1·20**	**·24**	5
5	1	...	7	8	328	326	**654**	230	424	·57	·67	**·61**	**·29**	6
...	1	1	5	39	391	337	**728**	193	437	1·15	1·21	**1·17**	**·17**	7
3	1	9	...	11	544	480	**1,024**	610	316	1·07	1·15	**1·11**	**·18**	8
2	...	1	11	13	107	82	**189**	80	66	·26	·24	**·25**	**·14**	9
19	5	5	11	33	630	492	**1,122**	407	715	1·40	1·29	**1·35**	**·11**	10
5	1	8	23	116	71	114	**185**	44	27	·13	·24	**·18**	**·12**	11
51	10	5	21	177	536	525	**1,061**	637	359	1·37	1·50	**1·43**	**·37**	12
9	10	3	29	63	116	74	**190**	81	109	·22	·16	**·19**	**·24**	13
7	...	2	14	121	338	356	**694**	215	479	·53	·64	**·58**	**·26**	14
6	2	1	5	30	106	113	**219**	75	47	·23	·29	**·26**	**·10**	15
18	15	7	5	15	50	39	**89**	27	50	·22	·19	**·20**	**·07**	16
3	2	..	3	3	29	25	**54**	13	32	·06	·06	**·06**	**·15**	17
2	4	...	4	18	65	66	**131**	49	40	·16	·20	**·18**	**·09**	18
...	...	2	2	7	88	107	**195**	50	111	·14	·21	**·17**	**·09**	19
3	16	2	1	4	20	18	**38**	24	14	·06	·06	**·06**	**·03**	20
13	4	5	3	6	107	95	**202**	48	34	·15	·14	**·14**	**·20**	21
4	1	..	...	2	21	19	**40**	14	19	·07	·06	**·06**	**·14**	22
2	...	...	..	30	40	21	**61**	14	47	·19	·11	**·15**	**·03**	23
...	...	...	...	...	1	...	**1**	...	1	...	...	...	**·05**	24
..	...	7	...	11	9	13	**22**	2	12	·03	·04	**·04**	**·07**	25
11	6	2	4	19	75	77	**152**	28	132	·15	·16	**·16**	**·27**	26
..	1	1	3	...	18	15	**33**	2	21	·05	·04	**·04**	**·22**	27
11	4	...	1	13	75	84	**159**	9	60	·13	·14	**·14**	**·15**	28
28	12	1	1	10	105	89	**194**	39	10	·26	·23	**·25**	**·27**	29
1	3	2	1	3	79	74	**153**	100	53	·18	·18	**·18**	**·19**	30
2	...	...	...	1	60	47	**107**	53	33	·04	·03	**·03**	**·18**	31
...	...	...	...	3	26	21	**47**	25	...	·03	·02	**·02**	**·07**	32
9	8	..	11	17	128	101	**229**	62	167	·16	·13	**·15**	**·29**	33
...	1	3	...	4	14	7	**21**	3	18	·09	·06	**·07**	**·20**	34
...	...	1	3	...	17	15	**32**	...	2	·06	·06	**·06**	**·15**	35
...	...	...	1	...	16	10	**26**	6	7	·07	·04	**·05**	**·07**	36
2	..	5	...	3	241	222	**463**	143	279	·61	·67	**·64**	**·41**	37
2	...	..	...	...	58	58	**116**	5	73	·13	·15	**·14**	**·08**	38
5	2	...	...	5	20	28	**48**	16	8	·04	·06	**·05**	**·15**	39
...	.	1	4	1	12	25	**37**	22	16	·02	·05	**·03**	**·05**	40
3	4	3	3	21	108	104	**212**	103	109	·18	·21	**·19**	**·11**	41
2	...	..	...	...	10	13	**23**	13	2	·02	·03	**·02**	**·07**	42
4	2	...	...	...	89	91	**180**	26	30	·15	·15	**·15**	**·20**	43
1	...	...	2	4	9	7	**16**	6	9	·01	·01	**·01**	**·07**	44
...	..	...	...	...	1	2	**3**	2	2	...	...	...	**·08**	45
...	...	...	...	4	13	8	**21**	...	21	·03	·01	**·02**	**·07**	46
7	1	...	..	...	24	22	**46**	8	38	·06	·05	**·05**	**·13**	47
...	4	...	...	2	9	13	**22**	4	6	·02	·03	**·02**	**·03**	48
305	142	92	246	1,435	6,180	5,545	**11,725**	4,269	5,773	·26	·26	**·26**	**·15**	

Paragraph 12 of section VI.]

ANNUAL

Deaths registered from **fevers** *in the* **districts** *of the United*

1	2	3		4						
		Circles of registration.		Villages.						
Number.	District.	Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.	January.	February.	March.	April.	May.
	MEERUT DIVISION.									
1	Dehra Dun ...	14	14	494	469	232	235	203	242	425
2	Saharanpur ...	30	30	1,618	1,389	1,789	1,634	1,968	2,493	3,587
3	Muzaffarnagar ...	28	28	928	928	1,013	1,048	1,089	1,616	2,078
4	Meerut	45	45	1,534	1,183	2,308	1,964	2,019	2,664	4,208
5	Bulandshahr ...	34	34	1,417	1,279	1,530	1,373	1,312	2,054	2,716
	AGRA DIVISION.									
6	Aligarh	37	37	1,748	1,748	1,388	1,530	1,420	2,368	2,762
7	Muttra	32	32	891	891	576	679	702	1,123	1,221
8	Agra	37	37	1,233	1,233	1,176	1,244	1,367	1,819	2,17
9	Mainpuri ...	23	23	1,368	861	932	679	805	1,042	1,22
10	Etah	31	31	1,551	1,547	876	1,000	1,043	1,581	1,75
	ROHILKHAND DIVISION.									
11	Bareilly	31	31	2,196	2,196	2,721	1,876	1,800	2,021	2,38
12	Bijnor	31	31	2,154	1,705	1,886	1,387	1,421	1,943	2,118
13	Budaun	28	28	1,659	1,659	1,543	1,228	1,532	2,240	2,126
14	Moradabad ...	34	34	2,657	1,999	2,437	2,045	2,058	2,961	3,04
15	Shahjahanpur ...	23	23	2,388	270	1,946	1,560	1,210	1,709	2,38
16	Pilibhit	15	15	1,094	1,094	1,318	1,042	963	1,099	1,63
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	24	24	1,717	1,470	1,309	1,022	1,252	1,506	1,83
18	Etawah	25	25	1,487	1,472	855	618	875	1,096	1,08
19	Cawnpore ...	28	28	1,972	1,529	1,212	977	1,213	2,124	2,25
20	Fatehpur ...	16	16	1,436	954	454	452	559	763	77
21	Allahabad ...	35	35	3,864	1,787	1,155	1,094	1,051	1,498	1,89
	JHANSI DIVISION.									
22	Jhansi	35	35	1,323	1,323	950	758	861	934	1,06
23	Jalaun	14	14	848	579	279	394	291	325	48
24	Hamirpur ...	23	23	798	702	458	445	419	429	57
25	Banda	24	24	1,231	1,075	507	448	436	459	46
	BENARES DIVISION.									
26	Benares... ...	19	17	2,117	1,286	950	924	1,097	1,308	1,62
27	Mirzapur ...	23	23	3,142	2,180	763	736	770	994	1,12
28	Jaunpur	22	22	3,169	2,752	1,269	1,079	842	1,257	1,69
29	Ghazipur ...	22	22	2,390	2,389	705	611	590	707	97
30	Ballia	19	19	1,740	1,188	733	501	526	594	1,08
	GORAKHPUR DIVISION.									
31	Gorakhpur ...	47	47	7,208	7,070	3,923	3,044	3,099	3,544	4,65
32	Basti	25	25	6,921	5,415	2,423	2,001	1,790	2,178	2,57
33	Azamgarh ...	34	34	4,809	4,069	1,545	1,320	1,279	1,712	2,31
	KUMAUN DIVISION.									
34	Naini Tal ...	19	19	1,650	1,649	894	821	684	818	84
35	Almora	6	5	5,082	2,456	650	768	817	1,116	1,85
36	Garhwal... ...	15	15	3,605	2,644	774	783	844	960	1,61
	LUCKNOW DIVISION.									
37	Lucknow ...	15	15	937	731	907	871	1,014	1,727	2,30
38	Unao	19	16	1,715	1,180	748	1,013	903	1,064	1,35
39	Rae Bareli ...	14	14	1,748	1,748	1,039	934	933	1,189	1,58
40	Sitapur	24	24	2,311	2,311	1,782	1,547	1,438	2,127	2,07
41	Hardoi	25	25	1,897	1,877	1,429	1,230	1,091	1,416	1,62
42	Kheri	18	18	1,731	896	2,562	2,495	2,201	2,269	2,40
	FYZABAD DIVISION.									
43	Fyzabad... ...	23	23	2,951	2,302	1,425	1,218	1,095	1,504	1,91
44	Gonda	25	25	2,910	1,949	1,807	1,413	1,540	1,214	1,35
45	Bahraich ...	19	17	1,894	111	2,743	2,901	2,628	2,187	1,96
46	Sultanpur ...	14	14	2,490	1,818	1,349	1,501	1,572	2,003	2,80
47	Partabgarh ...	16	16	2,188	888	971	784	867	1,023	1,40
48	Bara Banki ...	23	23	2,070	1,770	12,71	1,244	1,345	1,750	1,53
	Total for the Province	1,183	1,175	106,281	82,021	63,512	56,471	56,837	72,780	89,00

ORM No. IX,

ovinces during each month of the year 1929.

5							6			7			8	
							Total.			Ratio of deaths per 1,000 of population.				
une.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
367	250	239	256	194	229	225	1,658	1,439	**3,097**	12·94	17·12	**14·59**	**14·82**	1
,678	1,688	1,394	1,746	1,482	1,768	2,135	12,623	11,744	**24,367**	24·47	27·86	**25·99**	**27·98**	2
,769	1,374	1,066	978	1,023	1,212	1,416	8,385	7,297	**15,682**	19·31	20·27	**19·74**	**23·19**	3
,450	2,611	2,421	2,271	2,476	2,195	3,317	17,574	15,325	**32,899**	21·69	22·22	**21·95**	**25·26**	4
,711	2,053	1,902	2,182	1,835	1,759	2,626	12,711	11,342	**24,053**	22·60	22·50	**22·55**	**27·60**	5
,398	1,662	1,332	1,533	1,771	1,591	1,541	11,405	9,891	**21,296**	19·82	20·34	**20·06**	**21·74**	6
,169	699	730	1,042	820	954	945	5,802	4,858	**10,660**	17·01	17·47	**17·22**	**16·40**	7
,727	1,116	1,139	1,269	1,372	1,188	1,658	9,250	7,998	**17,248**	18·20	19·23	**18·66**	**18·69**	8
,131	866	1,004	997	904	709	1,419	6,669	5,040	**11,709**	16·19	15·00	**15·65**	**22·51**	9
,708	1,387	1,092	1,161	957	944	917	7,943	6,476	**14,419**	17·68	17·01	**17·38**	**19·30**	10
,822	1,736	1,934	2,169	2,557	2,456	2,382	13,872	11,986	**25,858**	25·46	25·56	**25·50**	**24·93**	11
,033	1,241	1,120	1,284	1,567	1,356	1,501	9,828	9,029	**18,857**	25·22	25·76	**25·48**	**25·69**	12
,734	1,598	1,500	1,949	1,888	1,089	1,954	11,005	9,376	**20,381**	20·85	20·95	**20·90**	**24·77**	13
795	2,130	1,699	2,448	2,923	2,291	2,529	15,218	14,145	**29,363**	23·81	25·27	**24·50**	**27·33**	14
,719	1,512	1,432	1,589	1,831	1,535	1,802	10,940	9,289	**20,229**	24·16	24·05	**24·11**	**24·78**	15
849	644	727	1,183	1,610	1,377	1,650	7,859	6,265	**14,124**	34·30	30·94	**32·72**	**27·13**	16
501	1,326	1,107	1,238	1,225	1,045	1,198	8,365	7,228	**15,593**	17·84	18·65	**18·23**	**24·18**	17
045	764	750	723	938	795	1,083	5,761	4,873	**10,634**	14·25	14·80	**14·50**	**18·02**	18
767	1,582	1,357	1,291	1,343	1,348	1,285	9,733	8,023	**17,756**	15·27	15·69	**15·46**	**14·62**	19
628	565	455	502	581	517	664	3,797	3,123	**6,920**	11·12	10·04	**10·61**	**11·31**	20
390	1,361	1,131	1,385	1,331	1,289	1,261	8,623	7,213	**15,839**	11·94	10·57	**11·28**	**13·92**	21
074	873	990	1,255	1,589	1,578	1,495	6,969	6,461	**13,430**	22·08	22·21	**22·14**	**22·63**	22
511	456	478	455	579	549	582	2,882	2,498	**5,380**	13·51	13·01	**13·27**	**17·84**	23
692	535	575	635	881	1,030	983	4,037	3,571	**7,658**	17·24	15·65	**16·46**	**19·46**	24
658	614	502	681	698	1,085	923	4,110	3,366	**7,476**	13·66	11·72	**12·71**	**15·99**	25
660	1,560	1,739	1,936	1,656	1,682	1,426	9,059	8,502	**17,561**	18·59	18·29	**18·44**	**17·08**	26
801	1,070	980	1,069	1,027	1,208	918	6,018	5,537	**11,555**	16·64	15·27	**15·96**	**17·61**	27
589	1,533	1,749	1,692	1,448	1,295	1,351	9,272	7,525	**16,797**	16·14	12·96	**14·54**	**13·84**	28
764	1,024	1,155	1,305	1,171	1,065	861	5,761	5,175	**10,936**	14·43	13·53	**13·99**	**14·47**	29
707	972	1,019	933	1,041	589	891	5,122	4,469	**9,591**	12·01	11·05	**11·54**	**13·45**	30
672	4,114	4,243	4,048	3,922	4,163	4,217	25,347	21,297	**46,644**	15·28	13·24	**14·28**	**14·11**	31
352	2,111	2,107	1,500	2,691	2,699	2,427	14,145	12,708	**26,853**	14·36	13·51	**13·95**	**15·43**	32
228	2,155	2,101	2,199	1,999	1,992	1,381	11,872	10,858	**22,730**	15·30	14·44	**14·74**	**16·38**	33
683	461	462	571	586	681	679	4,340	3,842	**8,182**	26·99	33·10	**29·55**	**26·65**	34
457	1,295	1,055	663	651	700	656	5,930	5,749	**11,679**	22·31	21·69	**22·02**	**19·29**	35
567	1,264	1,130	718	894	607	675	5,939	5,896	**11,835**	25·50	23·37	**24·39**	**21·59**	36
766	1,161	1,499	1,818	1,997	1,615	1,425	9,174	8,934	**18,108**	23·37	26·93	**24·99**	**14·87**	37
331	1,280	1,027	952	1,307	1,049	1,089	7,237	5,887	**13,124**	16·69	15·27	**16·02**	**16·39**	38
051	948	878	1,048	1,040	1,007	1,200	7,125	5,723	**12,848**	15·01	12·40	**13·72**	**14·00**	39
404	1,447	1,298	1,412	1,487	1,387	1,676	10,358	8,720	**19,078**	17·81	17·17	**17·51**	**19·07**	40
401	1,380	1,404	1,816	1,596	1,522	1,470	9,549	7,834	**17,383**	16·29	15·72	**16·03**	**18·70**	41
233	1,662	1,272	1,291	1,401	1,662	1,739	12,429	9,758	**22,187**	25·62	22·78	**24·29**	**20·90**	42
952	1,840	1,596	1,611	1,669	1,594	1,806	10,287	8,940	**19,227**	17·47	15·33	**16·40**	**16·38**	43
271	1,245	1,633	1,261	1,569	1,405	1,259	9,297	7,671	**16,968**	12·35	10·65	**11·52**	**12·88**	44
228	1,172	1,102	1,291	1,640	1,361	1,980	11,898	10,299	**22,197**	21·45	20·16	**20·83**	**15·64**	45
398	1,680	1,574	1,446	1,628	1,452	1,476	10,665	9,516	**20,181**	21·56	18·68	**20·10**	**18·85**	46
967	1,120	969	1,155	935	1,095	1,037	6,881	5,609	**12,490**	16·49	12·81	**14·60**	**15·65**	47
125	1,789	1,338	1,429	1,110	1,649	1,519	9,584	7,917	**17,501**	17·85	16·06	**16·99**	**17·95**	48
23	64,926	61,415	65,386	68,900	65,368	71,158	434,361	376,222	**810,583**	18·26	17·43	**17·86**	**18·71**	

Paragraph 17 of section VI.] ANNUA

Deaths registered from ***dysentery and diarrhoea*** *in the districts*

1	2	3		4						
		Circles of registration.		Villages.						
Number.	District.	Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	January.	February.	March.	April.	May.
	MEERUT DIVISION.									
1	Dehra Dun ...	14	10	494	20	19	10	16	13	37
2	Saharanpur ...	30	15	1,618	15	17	9	20	57	88
3	Muzaffarnagar ...	28	16	928	17	10	6	3	16	19
4	Meerut ...	45	18	1,534	25	9	2	9	30	27
5	Bulandshahr ...	34	20	1,417	33	24	11	19	26	28
	AGRA DIVISION.									
6	Aligarh	37	16	1,748	17	26	38	37	58	61
7	Muttra	32	27	891	44	20	12	20	32	29
8	Agra	37	10	1,233	10	26	15	18	43	51
9	Mainpuri	23	5	1,368	5	1	...	1	...	4
10	Etah	31	20	1,551	38	17	11	11	29	25
	ROHILKHAND DIVISION.									
11	Bareilly	31	16	2,196	16	6	10	4	17	13
12	Bijnor	31	22	2,154	23	12	10	17	35	42
13	Budaun	28	11	1,659	14	9	10	21	23	27
14	Moradabad ...	34	23	2,657	193	43	39	43	114	110
15	Shahjahanpur ...	23	9	2,388	9	10	5	9	18	11
16	Pilibhit	15	7	1,094	7	7	4	5	16	23
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	24	11	1,717	11	17	7	6	22	35
18	Etawah	25	7	1,487	7	6	6	7	23	19
19	Cawnpore	28	10	1,972	10	19	13	14	32	35
20	Fatehpur	16	11	1,436	16	3	4	10	8	8
21	Allahabad	35	24	3,864	24	19	16	13	41	44
	JHANSI DIVISION.									
22	Jhansi	35	18	1,323	21	13	9	8	8	7
23	Jalaun	14	7	848	7	2	3	..	2	4
24	Hamirpur	23	5	798	6	1	..	3	1	1
25	Banda	24	7	1,231	7	2	2	1	...	4
	BENARES DIVISION.									
26	Benares	19	7	2,117	10	45	36	103	112	103
27	Mirzapur	23	8	3,142	8	8	7	9	29	33
28	Jaunpur	22	14	3,169	23	6	2	3	15	10
29	Ghazipur	22	11	2,390	14	...	2	2	9	12
30	Ballia	19	18	1,740	55	12	19	20	15	24
	GORAKHPUR DIVISION.									
31	Gorakhpur	47	35	7,208	146	28	16	16	21	43
32	Basti	25	8	6,921	19	6	3	9	13	7
33	Azamgarh	34	28	4,809	40	11	7	13	22	32
	KUMAUN DIVISION.									
34	Naini Tal	19	14	1,650	84	12	7	8	11	37
35	Almora	6	5	5,082	269	27	39	39	63	122
36	Garhwal	15	14	3,605	727	63	45	65	187	40
	LUCKNOW DIVISION.									
37	Lucknow	15	11	937	21	46	29	30	64	7
38	Unao	19	9	1,715	29	5	10	8	7	
39	Rae Bareli	14	10	1,748	28	8	1	3	7	
40	Sitapur	24	6	2,311	6	8	7	6	20	1
41	Hardoi	25	13	1,897	13	9	5	9	12	
42	Kheri	18	9	1,731	12	6	2	7	9	
	FYZABAD DIVISION.									
43	Fyzabad	23	17	2,951	24	26	25	34	43	3
44	Gonda	25	3	2,910	3	5	2	5	8	
45	Bahraich	19	3	1,894	3	3	3	3	14	1
46	Sultanpur	14	10	2,490	91	11	6	10	34	4
47	Partabgarh ...	16	7	2,188	8	..	...	2	4	
48	Bara Banki ...	23	10	2,070	16	11	...	5	9	1
	Total for the Province...	1,183	615	106,281	2,244	694	525	724	1,392	1,8

FORM No. X.

of the United Provinces during each month of the year 1929.

5							6			7			8	9
							Total.			Ratio of deaths per 1,000 of population.				
June.	July.	August.	September.	October.	November.	December.	Male	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
40	29	25	31	13	17	12	127	135	**262**	·99	1·00	**1·23**	**1·09**	1
31	32	37	26	18	19	14	212	156	**368**	·41	·37	**.39**	**·35**	2
13	8	7	13	7	11	5	66	52	**118**	·15	·14	**·15**	**·16**	3
28	20	26	48	28	27	19	142	131	**273**	·17	·19	**·18**	**·20**	4
30	27	70	47	41	40	20	201	182	**383**	·36	·36	**·36**	**·34**	5
49	25	86	109	52	38	38	314	303	**617**	·54	·62	**·58**	**·67**	6
21	22	70	89	47	47	29	250	188	**438**	·73	·68	**·71**	**·47**	7
32	33	80	91	63	37	28	272	245	**517**	·53	·59	**·56**	**·50**	8
4	4	2	3	...	1	2	13	9	**22**	·03	03	**·03**	**·10**	9
10	11	27	44	19	30	31	141	124	**265**	·34	·32	**·32**	**·30**	10
15	5	12	24	10	14	12	78	64	**142**	·14	·14	**·14**	**·17**	11
25	20	40	49	26	26	13	174	141	**315**	·45	·40	**·42**	**·42**	12
7	18	23	33	10	15	15	104	107	**211**	·20	·24	**·22**	**·18**	13
48	94	144	164	77	51	39	527	439	**966**	·82	·78	**·80**	**·68**	14
13	13	10	52	4	3	1	78	71	**149**	·17	·18	**·18**	**·28**	15
14	6	20	17	26	13	7	87	71	**158**	·38	·35	**·37**	**·21**	16
25	20	40	35	24	18	15	144	120	**264**	·31	·31	**·31**	**·28**	17
3	7	20	22	5	10	13	79	62	**141**	·19	·19	**·19**	**·18**	18
26	46	70	58	30	30	19	229	163	**392**	·36	·32	**·34**	**·30**	19
8	11	11	6	6	10	3	49	39	**88**	·14	·12	**·13**	**·06**	20
38	20	55	61	33	27	28	207	188	**395**	·29	·27	**·28**	**·21**	21
3	22	35	29	24	21	24	98	105	**203**	·31	·36	**·33**	**·34**	22
1	3	12	12	8	1	2	24	26	**50**	·11	·13	**·12**	**·17**	23
2	1	2	10	1	4	9	23	12	**35**	·10	·05	**·07**	**·08**	24
2	5	8	5	2	4	3	20	18	**38**	·07	·06	**·06**	**·05**	25
75	92	189	170	102	96	68	644	547	**1,191**	1·32	1·18	**1·25**	**·91**	26
9	22	45	27	17	11	21	124	114	**238**	·34	·31	**·33**	**·18**	27
3	10	57	20	11	4	4	80	65	**145**	·14	·11	**·12**	**·06**	28
3	7	12	17	13	14	5	48	48	**96**	·12	·12	**·12**	**·06**	29
40	49	48	28	37	25	32	206	143	**349**	·46	·35	**·41**	**·35**	30
29	31	42	20	22	30	17	182	132	**314**	·11	·08	**·09**	**·06**	31
3	3	5	6	4	6	9	45	29	**74**	·04	·03	**·03**	**·06**	32
23	21	24	26	20	23	8	137	93	**230**	·18	·12	**·15**	**·10**	33
13	13	21	9	18	10	13	91	81	**172**	·56	·70	**·62**	**·46**	34
131	115	64	41	34	50	41	396	370	**766**	1·49	1·39	**1·44**	**1·18**	35
387	312	270	108	101	93	71	1,007	1,096	**2,103**	4·32	4·34	**4·33**	**3·94**	36
76	47	196	197	127	111	75	538	534	**1,072**	1·37	1·61	**1·48**	**·75**	37
8	1	8	10	9	2	4	48	27	**75**	·11	·07	**·09**	**·05**	38
8	10	5	7	4	8	5	35	36	**71**	·07	·08	**·07**	**·05**	39
6	8	13	5	10	7	4	60	49	**109**	·10	·10	**·10**	**·09**	40
11	19	25	16	11	5	3	62	70	**132**	·10	·14	**·12**	**·10**	41
10	6	10	4	5	1	2	37	31	**68**	·08	·07	**·07**	**·04**	42
18	20	27	21	37	30	26	196	145	**341**	·33	·25	**·29**	**·19**	43
3	11	8	3	...	1	2	34	23	**57**	·04	·03	**·04**	**·02**	44
7	7	27	7	6	3	1	46	48	**94**	·08	·09	**·09**	**·04**	45
32	39	17	6	17	7	8	139	95	**234**	·28	·19	**·23**	**·05**	46
1	2	2	...	4	2	...	13	5	**18**	·03	·01	**·02**	**·02**	47
5	11	16	12	8	5	8	63	43	**106**	·12	·09	**·10**	**·06**	48
1,389	1,358	2,063	1,838	1,191	1,058	828	7,890	6,975	**14,865**	·33	·32	**·33**	**·27**	

Paragraph 19 of Section VI.] ANNUAL

Deaths registered from ***respiratory diseases*** *in the districts*

1	2	3		4		5					
		Circles of registration.		Villages.							
Number.	District.	Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.	January.	February.	March.	April.	May.	June.
	MEERUT DIVISION.										
1	Dehra Dun ...	14	9	494	17	65	73	58	74	62	57
2	Saharanpur ...	30	26	1,618	31	133	113	67	71	73	57
3	Muzaffarnagar ...	28	21	928	25	16	13	14	16	8	6
4	Meerut ...	45	24	1,534	34	114	114	79	102	138	84
5	Bulandshahr ...	34	25	1,417	66	83	67	83	96	103	83
	AGRA DIVISION.										
6	Aligarh ...	37	18	1,748	18	97	96	98	68	67	43
7	Muttra ...	32	27	891	40	101	83	71	74	62	45
8	Agra	37	15	1,233	18	211	200	253	267	217	180
9	Mainpuri ...	23	8	1,368	9	2	8	10	7	8	1
10	Etah	31	25	1,551	56	39	40	25	27	41	17
	ROHILKHAND DIVISION.										
11	Bareilly ...	31	22	2,196	22	87	73	90	114	67	44
12	Bijnor	31	18	2,154	19	38	47	38	50	28	29
13	Budaun ...	28	21	1,659	34	49	31	34	28	35	10
14	Moradabad ...	34	24	2,657	71	275	206	179	164	143	127
15	Shahjahanpur ...	23	11	2,388	14	66	58	60	79	80	78
16	Pilibhit ...	15	14	1,094	14	71	54	55	58	65	53
	ALLAHABAD DIVISION.										
17	Farrukhabad ...	24	16	1,717	16	94	84	105	128	97	52
18	Etawah ...	25	12	1,487	14	33	48	23	24	30	30
19	Cawnpore ...	28	11	1,972	16	330	330	451	456	407	239
20	Fatehpur ...	16	15	1,436	23	12	14	27	24	12	4
21	Allahabad ...	35	25	3,864	37	89	95	126	197	147	86
	JHANSI DIVISION.										
22	Jhansi ...	35	21	1,323	47	64	49	48	43	42	40
23	Jalaun ...	14	13	848	35	40	15	23	37	33	33
24	Hamirpur ...	23	23	798	555	171	148	152	124	178	175
25	Banda ...	24	10	1,231	10	8	9	6	6	5	26
	BENARES DIVISION.										
26	Benares ...	19	9	2,117	18	172	153	178	211	227	164
27	Mirzapur ...	23	8	3,142	9	19	15	17	20	22	9
28	Jaunpur ...	22	12	3,169	25	15	13	16	24	14	12
29	Ghazipur ...	22	13	2,390	15	7	4	10	5	12	10
30	Ballia ...	19	13	1,740	21	13	13	11	12	13	4
	GORAKHPUR DIVISION.										
31	Gorakhpur ...	47	41	7,208	131	29	35	29	35	50	28
32	Basti	25	15	6,921	18	10	18	15	8	17	10
33	Azamgarh ...	34	30	4,809	38	26	24	37	26	44	32
	KUMAUN DIVISION.										
34	Naini Tal ...	19	17	1,650	48	48	42	45	57	44	35
35	Almora ...	6	6	5,082	191	47	52	65	47	72	43
36	Garhwal ...	15	14	3,605	145	17	25	19	38	41	48
	LUCKNOW DIVISION.										
37	Lucknow ...	15	12	937	33	304	313	395	430	301	239
38	Unao ...	19	10	1,715	35	17	36	15	27	8	14
39	Rae Bareli ...	14	13	1,748	48	20	20	18	32	12	2
40	Sitapur ...	24	15	2,311	28	14	8	19	20	10	8
41	Hardoi ...	25	13	1 897	37	18	15	25	16	9	14
42	Kheri ...	18	8	1,731	8	9	6	62	16	14	13
	FYZABAD DIVISION.										
43	Fyzabad ...	23	16	2,951	19	33	33	55	55	36	27
44	Gonda ...	25	8	2,910	8	13	19	10	43	36	18
45	Bahraich ...	19	4	1,894	4	17	17	11	8	8	8
46	Sultanpur ...	14	10	2,490	67	11	18	19	18	11	12
47	Partabgarh ...	16	4	2,188	5	6	2	4	3	3	1
48	Bara Banki ...	23	9	2,070	23	23	19	30	29	15	13
	Total for the Province	1,183	754	106,281	2,218	3,176	2,968	3,280	3,514	3,167	2,363

FORM No. XI.

of the United Provinces during each month of the year 1929.

						6			7			8	9
						Total.			Ratio of deaths per 1,000 of population.				
July	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
44	41	42	31	63	44	380	274	**654**	2·96	3·26	**3·08**	**2·90**	1
31	31	28	19	64	74	427	334	**761**	·83	·82	**·81**	**·66**	2
4	8	11	8	10	25	90	49	**139**	·21	·14	**·17**	**·20**	3
94	60	78	75	98	148	551	633	**1,184**	·68	·92	**·79**	**·72**	4
41	37	49	27	49	86	430	374	**804**	·76	·74	**·75**	**·59**	5
26	43	26	19	46	66	336	359	**695**	·58	·74	**·65**	**·82**	6
43	50	54	50	97	103	438	395	**833**	1·28	1·42	**1·34**	**1·27**	7
106	136	165	116	196	325	1,220	1,152	**2,372**	2·40	2·77	**2·57**	**2·52**	8
1	1	4	4	8	2	31	25	**56**	·07	·07	**·07**	**·04**	9
8	10	12	20	16	32	172	115	**287**	·38	·30	**·34**	**·28**	10
39	72	90	67	86	111	472	468	**940**	·87	1·00	**·93**	**·90**	11
15	16	15	12	30	36	202	152	**354**	·52	·43	**·48**	**44**	12
15	17	14	17	21	29	174	126	**300**	·32	·28	**·31**	**·26**	13
160	151	133	134	149	192	994	1,019	**2,013**	1·55	1·82	**1·68**	**1·39**	14
29	31	57	32	42	35	333	314	**647**	·73	·81	**·77**	**1·04**	15
30	49	64	44	48	52	350	293	**643**	1·53	1·43	**1·49**	**1·09**	16
48	53	55	49	52	72	453	436	**889**	·93	1·12	**1·04**	**·94**	17
22	11	10	26	29	49	166	169	**335**	·41	·51	**·46**	**·59**	18
201	219	252	195	193	294	1,783	1,784	**3,567**	2·80	3·49	**3·10**	**2·12**	19
6	11	11	20	13	12	107	59	**166**	·31	·19	**·25**	**·13**	20
95	114	124	104	117	141	685	750	**1,435**	·95	1·10	**1·02**	**·90**	21
38	49	37	33	47	50	320	220	**540**	1·01	·76	**·89**	**·77**	22
67	69	43	34	29	62	276	209	**485**	1·29	1·09	**1·19**	**·91**	23
166	190	274	313	300	247	1,302	1,136	**2,438**	5·49	4·98	**5·24**	**6·76**	24
11	4	8	10	10	5	70	38	**108**	·23	·13	**·18**	**·33**	25
169	227	207	188	214	174	1,144	1,140	**2,284**	2·35	2·45	**2·40**	**1·88**	26
12	12	13	14	12	14	103	76	**179**	·28	·21	**·25**	**·21**	27
36	44	20	18	12	28	141	111	**252**	·24	·19	**·22**	**·07**	28
15	9	18	11	9	13	62	61	**123**	·15	·16	**·16**	**·10**	29
2	11	8	13	14	11	72	53	**125**	·17	·13	**·15**	**·13**	30
34	43	22	27	37	42	186	225	**411**	·11	·14	**·12**	**·09**	31
16	10	5	10	13	9	84	57	**141**	·08	·06	**·07**	**·05**	32
34	28	16	19	20	14	173	147	**320**	·22	·19	**·21**	**·19**	33
24	18	18	32	26	36	258	167	**425**	1·60	1·44	**1·53**	**1·37**	34
58	27	32	23	47	57	305	265	**570**	1·15	1·00	**1·07**	**1·07**	35
46	24	22	32	25	41	240	138	**378**	1·03	·55	**·78**	**·70**	36
184	317	318	233	293	254	1,817	1,764	**3,581**	4·63	5·32	**4·94**	**4·06**	37
3	10	13	10	6	9	100	68	**168**	·23	·18	**·20**	**·15**	38
8	7	17	9	37	19	108	93	**201**	·23	·20	**·21**	**·08**	39
9	9	8	3	3	10	74	47	**121**	·13	·09	**·11**	**·10**	40
14	9	14	8	4	9	87	68	**155**	·15	·14	**·14**	**·11**	41
10	5	4	3	4	7	82	71	**153**	·17	·16	**·17**	**·05**	42
40	54	42	40	31	52	265	233	**498**	·45	·40	**·42**	**·31**	43
15	20	18	17	24	28	150	111	**261**	·20	·15	**·18**	**·10**	44
9	20	13	6	9	8	75	59	**134**	·13	·11	**·12**	**·07**	45
9	15	12	12	14	8	94	65	**159**	·19	·13	**·16**	**·11**	46
9	7	2	5	1	4	27	20	**47**	·06	·04	**·05**	**·08**	47
14	17	11	12	9	9	103	98	**201**	·19	·20	**·20**	**·11**	48
2,110	2,416	2,509	2,204	2,677	3,148	17,512	16,020	**33,532**	·74	·74	**·74**	**·65**	

Paragraphs 8 and 9 of Section VI.] ANNUAL

Deaths registered from **plague** *in the districts*

1	2	3		4						
Number.	District.	Circles of registration.		Villages.						
		Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.
	MEERUT DIVISION.									
1	Dehra Dun ...	14	2	494	2	16	3	6	2	...
2	Saharanpur ...	30	26	1,618	62	103	254	893	757	274
3	Muzaffarnagar ...	28	22	928	92	278	409	1,224	859	253
4	Meerut	45	7	1,534	18	8	31	78	90	45
5	Bulandshahr ...	34	1	1,417	1	...	...	...	7	...
	AGRA DIVISION.									
6	Aligarh	37	...	1,748	...	...	...	...	...	...
7	Muttra	32	...	891	...	...	...	...	...	...
8	Agra	37	...	1,233	...	...	...	...	...	...
9	Mainpuri	23	...	1,368	...	...	...			...
10	Etah	31	9	1,551	94	75	163	161	216	34
	ROHILKHAND DIVISION.									
11	Bareilly ...	31	10	2,196	12	16	42	78	63	10
12	Bijnor	31	20	2,154	102	80	131	254	221	83
13	Budaun	28	9	1,659	44	48	70	60	125	22
14	Moradabad ...	34	18	2,657	93	48	109	171	188	66
15	Shahjahanpur ..	23	11	2,388	16	19	50	114	24	...
16	Pilibhit ...	15	5	1,094	12	7	42	46	17	1
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	24	5	1,717	15	45	57	60	16	...
18	Etawah	25	1	1,487	1	...	...	...	...	...
19	Cawnpore	28	1	1,972	1	...	...	...	1	1
20	Fatehpur	16	3	1,436	8	27	13	8	4	4
21	Allahabad	35	18	3,864	70	62	143	149	52	1
	JHANSI DIVISION.									
22	Jhansi	35	...	1,323	...	...	...	...	...	...
23	Jalaun	14	...	848	...	...	...	...	...	...
24	Hamirpur	23	...	798	...	...	...	...	...	...
25	Banda	24	...	1,231	...	...	..	...	...	...
	BENARES DIVISION.									
26	Benares	19	9	2,117	43	83	216	228	43	...
27	Mirzapur	23	...	3,142	...	..	...	...	...	...
28	Jaunpur	22	13	3,169	84	122	271	204	102	12
29	Ghazipur	22	18	2,390	300	684	1,212	1,432	812	97
30	Ballia	19	15	1,740	279	494	946	1,249	448	47
	GORAKHPUR DIVISION.									
31	Gorakhpur ...	47	25	7,208	256	656	841	873	227	8
32	Basti ...	25	15	6,921	355	721	1,267	1,175	307	81
33	Azamgarh	34	33	4,809	658	1,382	2,638	2,824	933	79
	KUMAUN DIVISION.									
34	Naini Tal ...	19	1	1,650	1	...	2	15	5	...
35	Almora	6	...	5,082	...	...	...	...	...	...
36	Garhwal ...	15	...	3,605	...	...	...	...	...	...
	LUCKNOW DIVISION.									
37	Lucknow	15	7	937	14	5	19	70	48	7
38	Unao	19	4	1,715	48	51	150	104	40	11
39	Rae Bareli ...	14	6	1,748	40	25	49	76	48	13
40	Sitapur	24	15	2,311	34	80	177	272	94	23
41	Hardoi	25	13	1,897	42	116	175	189	70	8
42	Kheri	18	9	1,731	22	36	37	51	31	3
	FYZABAD DIVISION.									
43	Fyzabad	23	16	2,951	125	229	328	410	217	29
44	Gonda	25	3	2,910	14	43	48	38	12	1
45	Bahraich	19	3	1,894	20	1	23	112	92	9
46	Sultanpur	14	2	2,490	7	6	8	14	...	...
47	Partabgarh ...	16	4	2,188	47	26	88	101	12	...
48	Bara Banki ...	23	9	2,070	50	87	208	269	286	27
	Total for the Province...	1,183	388	106,281	3,082	5,679	10,220	13,008	6,519	1,254

FORM No. XII.

of the United Provinces during each month of the year 1929.

5							6			7			8	9
							Total.			Ratio of deaths per 1,000 of population.				
June.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	Number.
...	...	...	...	...	...	...	18	9	**27**	·14	·11	**·13**	**·06**	1
15	1	..	1	...	2	31	1,058	1,273	**2,331**	2·05	3·02	**2·49**	**1·88**	2
29	...	..	.	...	...	10	1,391	1,676	**3,067**	3·20	4·66	**3·86**	**2·71**	3
1	...	...	1	...	..	...	109	145	**254**	·13	·21	**·17**	**4·12**	4
...	...	...	...	...	.	...	3	4	**7**	...	·01	**·01**	**4·67**	5
...	...	...	...	...	...	...	...	...	...	...	..	..	**·86**	6
...	...	...	...	...	...	...	...	...	...	..	.	...	**2·74**	7
...	...	...	...	...	...	...	...	...	...	...	...	.	**·49**	8
...	...	...	...	..	...	.	...	...	...	...	...		...	9
5	6	...	...	...	...	...	298	362	**660**	·66	·95	**·79**	**·08**	10
...	...	1	1	8	30	20	125	144	**269**	·23	·31	**·26**	**1·22**	11
3	...	...	...	...	9	14	319	476	**795**	·82	1·36	**1·07**	**1·35**	12
...		...	...	...	...	3	145	183	**328**	·27	·41	**·34**	**1·57**	13
1	...	...	...	5	4	25	248	369	**617**	·39	·66	**·51**	**1·98**	14
...	...	1	...	...	...	1	89	120	**209**	·20	·31	**·25**	**·63**	15
..	...	...	1	...	...	...	54	60	**114**	·23	·30	**·26**	**·66**	16
...	...	...	...	...	...	.	71	107	**178**	·15	·28	**·21**	**·35**	17
	...	...	...	...	...	1	1	...	**1**	...	...	...	**.09**	18
...	...	...	...	...	...	..	2	...	**2**	...	...	..	**·66**	19
...	...	...	..	...	..	...	23	33	**56**	·07	·11	**·86**	**·57**	20
...	...	...	...	..	...		165	242	**407**	·23	·35	**·29**	**·64**	21
...	...	...	...	...	..	...	..	...	...	.	...	...	**·03**	22
...	...	...	...	...	...	...	...	...	...	...	..	...	**·12**	23
...	...	...	...	...	...	...	...	...	...	..	...	...	**·19**	24
...	...	...	...	...	...	...	.	..	..	...	...	..	**·08**	25
...	...	...	...	...	4	15	259	330	**589**	·53	·71	**·62**	**·44**	26
...	...	...	...	...	...	...	...	...		..	...	...	**·08**	27
...	...	...	...	...	...	...	293	418	**711**	·51	·72	**·61**	**·54**	28
8	...	...	15	6	41	78	1,955	2,430	**4,385**	4·90	6·35	**5·61**	**5·98**	29
...	2	...	...	...	6	17	1,441	1,768	**3,209**	3·38	4·37	**3·86**	**1·72**	30
4	1	3	...	8	33	50	1,139	1,565	**2,704**	·69	·97	**·83**	**·62**	31
2	3	2	1	2	35	39	1,518	2,117	**3,635**	1·54	2·25	**1·89**	**1·17**	32
4	...	2	3	11	46	84	3,518	4,538	**8,056**	4·52	6·03	**5·27**	**3·79**	33
..	...	...	...	...	...	...	13	9	**22**	·08	·08	**·08**	**·61**	34
...	...	...	..	...	...	..	...	...	.	...	...	...	...	35
...	...	...	..	...	...	...	...		...	...	...	..	...	36
1	...	2	...	...	3	3	70	88	**158**	·18	·26	**·22**	**·10**	37
...	...	..	...	...	...	...	156	200	**356**	·36	·52	**·43**	**1·05**	38
...	...	...	..	...	...	..	103	108	**211**	·22	·23	**·22**	**·61**	39
...	...	..	...	...	...	...	310	336	**646**	·53	·66	**·59**	**·82**	40
4	...	...	1	...	...	..	238	325	**563**	·41	·65	**·52**	**·52**	41
1	...	3	1	...	6	55	78	146	**224**	·16	·34	**·24**	**·54**	42
16	18	3	8	3	23	68	574	778	**1,352**	·97	1·33	**1·15**	**1·27**	43
...	...	...	...	...	...	...	56	86	**142**	·07	·12	**·10**	**·13**	44
.	...	...	...	...	...	...	99	138	**237**	·18	·27	**·22**	**·03**	45
...	...	...	...	..	...	..	16	12	**28**	·03	·02	**·03**	**·29**	46
...	...	...	...	1	...	...	99	129	**228**	·24	·29	**·27**	**·08**	47
9	...	...	1	...	6	7	372	528	**900**	·69	1·07	**·87**	**·93**	48
103	31	17	34	44	248	521	16,426	21,252	**37,678**	·69	·98	**·83**	**1·14**	

STATISTICAL STATEMENTS

AND

APPENDICES

(Vaccination)

Paragraphs 6—8 of Section VII.]

VACCINATION STATEMENT NO. I.—*Showing the particulars of vaccination*

Number.		Ranges and districts.	Population according to census of 1921.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccina		
										Total.	Successful	
											Under one year.	One and under six years.
1		2	3	4	5	6			7	8	9	10
						Male.	Female.	Total.				
1	First Range.	Dehra Dun ..	212,243	178	9	10,782	4,762	15,544	1,943·00	5,953	3,592	1,737
2		Saharanpur ..	937,471	439	18	23,301	18,427	41,728	2,318·22	36,558	30,812	3,434
3		Muzaffarnagar ..	794,265	475	15	17,290	14,786	32,076	2,138 40	31,449	24,661	3,442
4		Meerut ..	1,499,074	639	30	36,348	24,409	60,757	2,025·23	49,092	37,865	6.463
5		Bulandshahr ..	1,066,519	559	20	25,610	19 220	44,830	2.241·50	40,689	32,927	4,334
6		Aligarh ..	1,061,745	546	23	23,581	18,305	41,886	1,821·13	35,995	29,190	3 312
7		Muttra ..	619,138	427	15	19,619	13,165	32,784	2,185·60	22,114	14,755	3,723
8		Agra ..	924,155	498	23	26,045	18,023	44,068	1,916·00	36,525	24,544	5,305
9		Mainpuri ..	748,027	447	14	10,622	8,890	19,512	1,393·71	18,691	14,069	2,421
10		Etah ..	829,765	480	19	17,802	13,272	31,074	1,635·47	27,028	20,062	4,267
11		Bareilly ..	1,013,875	642	15	20,320	15,795	36,115	2,407·66	31,928	18,556	8,644
12		Bijnor ..	740,182	394	16	13,045	11,692	24,737	1,546·06	24,117	17,464	4,228
13		Budaun ..	975,347	485	18	23,399	15,871	39,270	2,181·67	31,981	22,484	7,053
14		Moradabad ..	1,198,653	524	24	25,734	22,754	48,488	2,020·33	47,233	35,409	6,903
15		Shahjahanpur ..	839,115	486	16	11,574	10,561	22,135	1,383·44	21,824	14,469	5,236
16		Pilibhit ..	431,601	320	9	8,832	7,171	16,003	1,778·11	15,558	10,111	3,345
17		Garhwal ..	485,186	86	13	18,624	13,781	32,405	2,492·69	19,351	5,930	12,886
		Total ..	14,376,356	418	297	332,528	250,884	583,412	1,964·35	496,086	356,900	86,733
18	Second Range.	Naini Tal ..	276,875	102	12	1,0580	5,658	16,238	1,353·17	8,601	5,120	2,604
19		Almora ..	530,338	99	19	23,911	15,129	39,040	2,054·74	22,939	10,970	10,120
20		Lucknow ..	724,344	749	13	14,591	12,143	26,734	2,056·46	23,213	14.709	6,117
21		Unao ..	819,128	458	13	14,037	11,150	25,187	1,937·46	25,781	13,436	7,872
22		Rae Bareli ..	936,403	537	16	18,971	14,543	33,514	2,094·63	33,627	11,962	15,339
23		Sitapur ..	1,089,481	484	18	17,399	14,986	3,2385	1,799·17	31,987	21,051	8,621
24		Hardoi ..	1,084,410	486	21	15,032	14,491	29,523	1,405·86	20,025	17,070	10,871
25		Kheri ..	913,475	307	22	13,008	11,540	24,548	1,115·82	23,935	14,827	6,896
26		Fyzabad ..	1,172,575	677	21	18,744	14,605	33,349	1,588·05	32,645	14,291	12,098
27		Gonda ..	1,473,098	524	26	21,855	17,353	39,208	1,508·00	38,253	15,544	17,420
28		Bahraich ..	1,065,377	403	19	21,759	17,413	39,172	2,061·68	37,588	20,176	13,187
29		Sultanpur ..	1,003,912	586	17	20,782	15,937	36,719	2,159·94	36,564	10,796	18,600
30		Partabgarh ..	855,130	593	14	14,695	10,681	25,376	1,812·57	24,331	8,183	11,809
31		Bara Banki ..	1,029,954	585	18	15,181	12,562	27,743	1,541·28	27,741	15,273	8,91[illegible]
		Total ..	12,974,500	403	249	240,545	188,191	428,736	1,738·71	397,230	193,408	150,47[illegible]
32	Third Range.	Farrukhabad ..	856,633	509	16	15,259	12,368	27,627	1,726·69	25,514	19,047	5,51[illegible]
33		Etawah ..	733,532	434	13	14,949	10,431	25,380	1,952·30	22,230	15,925	3,05[illegible]
34		Cawnpore ..	1,148,664	484	25	25,229	19,021	44,250	1,770·00	36,613	24,312	7,66[illegible]
35		Fatehpur ..	652,392	397	12	10,294	8,075	18,369	1,530·75	17,830	12,155	3,58[illegible]
36		Allahabad ..	1,404,445	491	27	20,631	18,841	39,472	1,461·92	38,580	20,618	14,05[illegible]
37		Jhansi ..	606,499	167	26	13,744	11,475	25,219	969·96	23,084	18,341	2,92[illegible]
38		Jalaun ..	405,439	262	13	10,030	7,159	17,189	1,322·23	15,318	12,293	1,42[illegible]
39		Hamirpur ..	465,323	191	14	9,817	8,997	18,814	1,343·85	17,332	13,934	2,24[illegible]
40		Banda ..	588,036	208	16	9,101	7,729	16,830	1,051·87	16,992	11,960	3,76[illegible]

the United Provinces during the year 1929-30.

on.		Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous five years.		Average annual number of deaths from small-pox during previous five years.	
Total of all ages.	Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
11	12	13	14	15	16	17	18	19	20	21	22	23	24
5,570	145	9,671	5,130	538	95·91	56·17	56·41	2·43	5·56	6,434·80	35·03	36·00	·17
34,828	201	5,372	2,588	252	95·79	50·55	39·91	·55	4·69	34,704·00	37·02	98·00	·10
28,428	187	1,296	351	34	90·93	27·81	36·23	·59	2·62	26,281·00	33·10	109·00	·14
44,550	390	12,890	3,325	580	91·47	27·01	31·94	·79	4·50	44,874·20	29·93	176·60	·12
37,907	261	4,942	1,149	356	93·76	25·05	36·62	·64	7·20	34,891·20	32·71	257·40	·24
32,880	526	6,512	1,778	272	92·70	28·49	32·64	1·46	4·18	34,347·20	32·35	315·40	·29
18,858	625	11,830	2,826	1,827	87·76	28·25	35·02	2·83	15·44	16,758·80	27·07	109·40	·17
30,187	1,135	9,254	954	708	85·30	11·16	33·70	3·10	7·65	29,427·40	31·84	167·60	·18
16,682	530	1,061	243	122	91·85	25·88	22·89	2·83	11·50	15,778·20	21·09	107·80	·14
25,553	92	4,240	1,659	89	94·86	39·97	32·79	·34	2·10	26,039·20	31·38	96·60	·11
27,529	1,220	5,307	1,547	673	89·65	33·38	28·68	3·82	12·68	26,885·80	26·52	123·80	·12
22,054	273	1,122	347	99	92·49	33·93	30·26	1·13	8·82	21,700·20	29·31	273·20	·37
30,077	109	7,820	1,608	270	94·36	21·30	32·48	·34	3·45	27,080·20	27·76	237·60	·24
42,728	744	2,549	485	168	91·91	20·37	36·05	1·57	6·59	38,550·60	32·16	318·00	·26
19,883	201	899	352	40	91·95	40·98	24·11	·92	4·45	22,967·20	27·37	86·20	·10
13,905	489	1,229	697	95	92·27	61·46	33·83	3·14	7·73	14,672·20	33·99	28·20	·07
19,079	59	13,054	10,159	797	98·89	82·88	60·26	·30	6·10	25,883·60	53·35	32·00	·07
50,698	7,187	99,048	35,198	6,920	92·19	38·20	33·81	1·45	6·99	447,275·80	31·11	2,572·80	·17
7,957	174	7,942	2,451	1,666	94·42	39·05	37·59	2·02	20·98	10,291·40	37·16	56·20	·20
21,376	634	16,399	6,439	2,935	95·84	47·82	52·45	2·76	17·90	29,206·40	55·07	79·00	·15
21,812	120	3,904	827	29	94·45	21·34	31·25	·52	·74	20,749·40	28·66	295·60	·41
23,460	412	509	154	95	92·47	37·20	28·83	1·60	18·66	20,687·00	25·25	68·40	·08
31,691	476	65	35	12	95·59	66·04	33·88	1·42	18·46	19,577·20	20·19	140·60	·15
30,967	164	581	2 4	23	97·31	52·69	28·69	·51	3·96	29,487·20	31·49	55·60	·05
28,646	135	106	32	3	95·84	31·07	26·44	·45	2·83	26,986·80	26·05	123·60	·11
22,870	205	844	382	99	96·37	51·27	25·45	·86	11·73	22,864·40	25·10	62·60	·07
29,503	283	1,489	991	32	91·17	68·02	26·01	·86	2·15	28,129·20	23·98	238·60	·20
37,441	136	1,006	807	12	98·23	81·19	25·96	·35	1·19	34,385·80	29·33	102·60	·07
37,227	99	1,584	1,542	16	99·30	98·35	36·39	·26	1·01	35,365·00	33·19	85·60	·08
35,405	330	209	125	5	97·71	59·80	35·39	·90	2·39	30,611·60	30·59	70·40	·07
22,937	453	1,166	735	120	96·06	70·27	27·68	1·86	10·29	20,148·60	23·56	112·40	·13
25,869	324	216	47	21	94·35	24·10	25·16	1·17	9·72	22,259·40	21·61	30·00	·03
77,161	3,945	36,020	14,861	5,068	95·90	48·01	30·21	·99	14·07	35,075·00	27·03	1,521·20	·12
24,863	17	2,243	1,075	3	97·51	47·99	30·28	·07	·13	21,398·60	24·98	176·60	·15
19,758	206	3,758	1,629	220	89·72	46·04	29·16	·92	5·85	19,469·60	26·54	97·40	·09
33,416	368	7,971	2,680	487	92·19	35·81	31·42	1·00	6·11	37,094·20	32·29	156·00	·09
16,408	393	541	163	41	94·10	32·60	25·40	2·20	7·58	17,534·20	26·88	25·80	·03
35,633	966	1,405	698	125	94·73	54·53	25·87	2·50	8·90	32,307·20	23·03	302·20	·20
21,564	165	2,618	957	204	94·09	39·64	37·13	·72	7·79	21,704·40	35·78	133·20	·14
14,278	160	2,079	782	158	94·19	40·71	37·14	1·04	7·60	14,449·80	35·64	45·40	·03
16,427	230	1,747	1,561	32	96·05	91·02	38·66	1·33	1·83	16,930·00	36·38	39·40	·05
16,077	166	262	194	12	95·55	77·60	27·67	·98	4·58	16,547·60	28·14	51·60	·07

Paragraphs 6–8 of Section VII.]

VACCINATION STATEMENT NO. I.—*Showing the particulars of vaccination*

Number.	Ranges and districts.	Population according to census of 1921.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Total.	Primary vaccin	
										Successful	
										Under one year.	One and under six years.
1	2	3	4	5	6			7	8	9	10
					Male.	Female.	Total.				
	Third Range—(*concluded*).										
41	Benares ..	952,031	894	18	19,214	16,058	35,272	1,959·55	32,780	14,100	16,368
42	Mirzapur ..	724,183	138	20	16,597	15,110	31,707	1,585·35	29,903	20,115	7,705
43	Jaunpur ..	1,155,105	745	19	18,543	15,927	34,470	1,814·21	23,074	17,930	12,048
44	Ghazipur ..	781,570	600	13	13,401	10,194	23,595	1,815·00	21,469	4,784	14,025
45	Ballia ..	831,009	668	14	14,847	12,933	27,780	1,984·28	27,016	13,776	11,222
46	Gorakhpur ..	3,266,830	721	69	64,555	57,665	122,220	1,771·30	121,590	60,864	45,456
47	Basti ..	1,925,228	687	29	28,930	25,644	54,574	1,881·86	54,258	30,489	19,230
48	Azamgarh ..	1,528,012	690	26	24,057	19,150	43,207	1,661·80	42,394	12,829	22,924
	Total ..	18,024,931	443	370	329,198	276,777	605,975	1,637·77	575,977	323,472	193,15
	TOTAL OF ALL RANGES	45,375,787	423	916	902,271	715,852	1,618,123	1,766·50	1,469,293	873,780	430,35
	TOTAL OF DISPENSARY STAFF.	..	..	..	1,005	454	1,459	45·59	528	158	19
	TOTAL OF OTHER AGENCIES (PRIVATE MEDICAL PRACTITIONERS).	..	..	..	..	..	..	..	..	..	..
	GRAND TOTAL ..	45,375,787	423	916	903,276	716,306	1,619,582	1,768·10	* 1,469,821	873,938	430,5

NOTE.—(1) Column 13—" Re-vaccination " includes the vaccination of all persons who bear marks o previous vaccination or of small-pox.

* In addition 14,762 operations—228 primary and 14,534 re-vaccinations were performed by milita medical officers in cantonments, out of these 9,803 –164 primary and 9,639 re-vaccinations were successfu These figures referred to the year 1929, i.e., from January to December, 1929.

SU

—	Total number of persons vaccinated		Total number of operations performed.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.
By special staff Statement I	1,447,318	170,805	1,469,293	171
By dispensary staff Statement III	528	931	528	
By other agencies	..	..	..	..
(Private Medical Practitioners)..	..	..	..	..
Total ..	1,447,846	171,736	1,469,821	171,

the United Provinces during the year 1929-30—(concluded).

on.		Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous five years.		Average annual number of deaths from small-pox during previous five years.	
Total of all ages.	Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
11	12	13	14	15	16	17	18	19	20	21	22	23	24
31,577	207	2,767	1,600	138	96·94	62·04	34·85	·63	6·79	28,276·20	29·70	425·60	·27
29,308	72	1 899	1,536	10	98·25	81·31	42·59	·24	·53	27,043·60	39·34	188·20	·22
31,996	267	1,719	1,238	68	97·52	74·98	28·77	·81	3·95	31,135·00	26·95	192·20	·15
20,827	178	2,209	1,476	132	97·82	71·06	28·54	·83	5·97	19,163·80	24·52	220·60	·27
26,535	113	849	697	9	98·63	82·98	32·77	·42	1·06	24,035·20	28·92	194·40	·19
4,151	3,004	1,822	1,007	249	96·26	64·02	35·25	2·47	13·67	95,776·60	29·32	57·70	·18
52,570	768	574	411	32	98·28	75·83	27·52	1·41	5·57	51,612·20	26·81	155·80	·07
40,695	437	1,508	827	138	96·99	60·36	27·17	1·03	9·15	36,721·40	24·03	466·40	·29
6,083	7,717	35,971	18,531	2,108	96·10	54·72	31·32	1·34	5·86	511,199·60	28·36	3,447·80	·19
373,942	18,849	171,039	68,590	14,096	94·72	43·70	31·79	1·28	8·24	993,550·40	21·90	7,541·80	·15
430	27	931	511	72	85·83	59·49	..	5·11	7·73	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
374,372	18,876	171,970*	69,101	14,168	94·72	43·79	31·81	1·28	8·24	99,3550·40	21·90	7,541·80	·15

(2) Difference of 22,209 between the number of primary vaccinations and re-vaccinations performed (total of columns 8 and 13, and the total number of persons vaccinated (total in column 6) represents secondary operations.

ARY.

ercentage of successfull cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccination per 1,000 of popualtion.	Total cost of department.	Average cost of each successful case.
Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One and under six years.			
							Rs.	Rs. a. p.
94·72	43·70	916	1,766·50	873,780	430,357	31·79	500,696	0 4 3
85·83	59·49	..	..	158	193	..	..	..
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..
94·72	43·79	916	1,766·50	873,938	430,550	31·81	500,696	0 4 3

VACCINATION STATEMENT NO. II.—*Showing the cost of the department*

Number.	Ranges and districts.		Expen							
			Assistant Directors of Public Health.		Assistant Superintendents of Vaccination.		Vaccinators.		Clerks.	
			Number.	Pay.	Number.	Pay.	Number.	Pay.	Number.	Pay.
				Rs.		Rs.		Rs.		Rs.
1	First Range.	Dehra Dun	..	..	1	549	9	2,006	..	..
2		Saharanpur	..	..	1	540	18	5,874	1	424
3		Muzaffarnagar	..	..	1	606	15	5,107	..	..
4		Meerut	..	..	1	720	30	9,708	..	..
5		Bulandshahr	..	..	1	720	20	6,121	..	..
6		Aligarh	..	..	1	814	23	6,003	..	..
7		Muttra	..	..	1	540	15	4,021	1	40
8		Agra	..	..	1	2,280	23	8,122	..	..
9		Mainpuri	..	..	1	557	14	4,074	..	..
10		Etah	..	..	1	525	19	6,099	..	..
11		Bareilly	..	..	1	780	15	4,237	2	156
12		Bijnor	..	..	1	720	16	5,072	..	..
13		Budaun	..	..	1	700	18	6,180	..	..
14		Moradabad	..	..	1	540	24	7,866	..	..
15		Shahjahanpur	..	..	1	720	16	4,379	..	..
16		Pilibhit	..	..	1	537	9	3,086	..	..
17		Garhwal	..	..	1	540	13	4,101	..	..
18	Second Range.	Naini Tal	..	..	1	780	12	3,504	..	..
18A		Government Bovine Lymph Dépôt, Patwa Dangar, district Naini Tal.	..	..	..	..	(a)4	2,880	(b)4	7,941
19		Almora	..	..	1	720	19	7,346	..	..
20		Lucknow	..	..	1	924	13	4,070	..	..
21		Unao	..	..	1	720	13	3,851	..	..
22		Rae Bareli	..	..	1	540	16	4,417	..	..
23		Sitapur	..	..	1	540	18	5,907	..	..
24		Hardoi	..	..	1	720	21	6,287	..	..
25		Kheri	..	..	1	540	22	6,405	..	..
26		Fyzabad	..	..	1	720	21	6,550	..	..
27		Gonda	..	..	1	540	26	8,158	..	..
28		Bahraich	..	..	1	720	19	6,445	..	..
29		Sultanpur	..	..	1	540	17	4,900	..	..
30		Partabgarh	..	..	1	540	14	3,776	..	..
31		Bara Banki	..	..	1	651	18	4,942	..	..
32	Third Range.	Farrukhabad	..	..	1	743	16	5,028	1	10
33		Etawah	..	..	1	540	13	3,886	..	..
34		Cawnpore	..	..	1	1,260	25	9,462	..	..
35		Fatehpur	..	..	1	540	12	3,548	..	..
36		Allahabad	..	..	1	780	27	7,952	1	210
37		Jhansi	..	..	1	540	26	7,864	..	..
38		Jalaun	..	..	1	540	13	4,322	..	..
39		Hamirpur	..	..	1	540	14	3,951	..	..
40		Banda	..	..	1	540	16	4,920	..	..

(*a*) Laboratory Assistants.
(*b*) Includes one superintendent and one electrician.

in the United Provinces during the year 1929-30.

diture.						Paid from—								
Peons.		Total pay of establishment.	Travelling allowance.	Contingencies.	Total cost.	Imperial funds.	Provincial funds.*	Local funds.†	Municipalities.	Native States.‡	Total.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff only.	Number.
Number.	Pay.													
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		A. p.	
..	..	2,555	464	1,132	4,151	..	..	2,971	1,180	..	4,151	10,700	6 3	1
..	..	6,838	131	971	7,940	..	..	5,797	2,143	..	7,940	37,416	3 5	2
..	..	5,713	275	1,189	7,177	..	..	6,127	1,050	..	7,177	28,779	3 0	3
..	..	10,428	261	1,221	11,910	..	..	10,117	1,793	..	11,910	47,875	3 11	4
..	..	6,841	120	1,102	8,063	..	..	6,730	1,333	..	8,063	39,056	3 4	5
3	88	6,905	14	803	7,722	..	..	5,752	1,970	..	7,722	34,658	3 7	6
1	60	4,661	242	1,222	6,125	..	..	4,916	1,209	..	6,125	21,684	4 6	7
2	300	10,702	160	1,002	11,864	..	..	7,871	3,993	..	11,864	31,141	6 1	8
..	..	4,631	126	675	5,432	..	..	5,172	260	..	5,432	16,925	5 2	9
..	..	6,624	143	1,158	7,925	..	..	6,025	1,900	..	7,925	27,212	4 7	10
4	345	5,518	140	1,613	7,271	..	..	5,701	1,570	..	7,271	29,076	4 0	11
1	60	5,852	160	968	6,980	..	..	5,220	1,760	..	6,980	22,401	5 0	12
2	196	7,076	120	841	8,037	..	..	6,631	1,406	..	8,037	31,685	4 1	13
5	475	8,881	159	1,870	10,910	..	..	8,226	2,684	..	10,910	43,213	4 6	14
2	157	5,256	159	1,291	6,706	..	..	5,557	1,149	..	6,706	20,235	5 4	15
2	174	3,797	144	664	4,605	..	..	3,741	864	..	4,605	14,602	5 1	16
14	900	5,541	180	118	5,839	..	..	5,839	..	..	5,839	29,238	3 2	17
2	231	4,515	240	1,574	6,329	..	..	5,151	1,178	..	6,329	10,408	9 9	18
(c)3	528	11,349	974	36,541	48,864	..	48,864	..	..	..	48,864	..	..	18A
..	..	8,066	990	798	9,854	..	..	9,393	461	..	9,854	27,815	5 8	19
8	581	5,575	120	1,931	7,626	..	..	3,553	4,073	..	7,626	22,639	5 5	20
1	60	4,631	168	522	5,321	..	..	4,888	433	..	5,321	23,614	3 7	21
..	..	4,957	150	663	5,770	..	..	4,952	301	517	5,770	31,726	2 7	22
1	42	6,489	120	1,246	7,855	..	..	7,270	585	..	7,855	31,261	4 0	23
..	..	7,007	120	1,257	8,384	..	..	7,331	1,053	..	8,384	28,678	4 9	24
2	262	7,207	120	1,418	8,745	..	..	5,816	529	2,400	8,745	23,252	6 0	25
1	60	7,330	322	2,034	9,686	..	..	8,036	1,650	..	9,686	30,494	5 1	26
1	156	8,854	120	1,234	10,208	..	..	9,393	815	..	10,208	38,248	4 3	27
2	87	7,252	140	1,337	8,729	..	..	8,075	654	..	8,729	38,769	3 7	28
..	..	5,440	193	1,052	6,685	..	..	6,356	329	..	6,685	35,530	3 0	29
..	..	4,316	169	1,275	5,760	..	..	5,345	415	..	5,760	23,672	3 10	30
2	93	5,686	191	1,143	7,020	..	..	6,711	309	..	7,020	25,916	4 4	31
..	..	5,781	131	750	6,662	..	..	5,680	982	..	6,662	25,938	4 1	32
..	..	4,426	120	913	5,459	..	..	4,953	506	..	5,459	21,387	4 1	33
7	1,173	11,895	180	1,662	13,737	..	..	8,337	5,400	..	13,737	36,096	6 1	34
..	..	4,088	126	178	4,392	..	..	4,136	240	16	4,392	16,571	4 3	35
4	414	9,356	132	1,762	11,250	..	..	8,731	2,519	..	11,250	36,331	4 11	36
2	127	8,531	168	842	9,541	..	..	7,861	1,680	..	9,541	22,521	6 9	37
..	..	4,862	120	843	5,832	..	..	4,313	1,056	456	5,825	15,060	6 2	38
..	..	4,491	120	755	5,366	..	..	5,366	..	..	5,366	17,988	4 9	39
2	90	5,550	137	240	5,927	..	..	5,927	..	..	5,927	16,271	5 10	40

(c) Includes one mali.
* Goverment.
† District Boards, Cantonments and Town and Notified Areas.
‡ Includes contributions from Courts of Wards and private persons.

VACCINATION STATEMENT NO. II.—*Showing the cost of the department*

Number.	Ranges and districts.	Expen							
		Assistant Directors of Public Health.		Assistant Superintendents of Vaccination.		Vaccinators.		Clerks.	
		Number.	Pay.	Number.	Pay.	Number.	Pay.	Number.	Pay.
			Rs.		Rs.		Rs.		Rs.
41	Third Range—(*concluded.*) Benares	..	..	1	780	18	5,578	1	140
42	Mirzapur	..	..	1	720	20	6,526	..	..
43	Jaunpur	..	..	1	720	19	4,957	..	..
44	Ghazipur	..	..	1	540	13	4,152	1	168
45	Ballia	..	..	1	540	14	3,792	..	..
46	Gorakhpur	..	..	3	2,180	69	17,691	..	..
47	Basti	..	..	1	720	29	9,483	..	..
48	Azamgarh	..	..	1	720	26	7,956	..	..
	Total of districts ..	..	..	50	34,526	(*a*)920	2,82,562	(*b*)12	9,089
	Office establishment of Assistant Director of Public Health, 1st Range.	1	13,862	..	..	..	..	1	732
	Office establishment of Assistant Director of Public Health, 2nd Range.	1	22,200	..	..	..	..	1	732
	Office establishment of Assistant Director of Public Health, 3rd Range.	1	15,507	..	..	..	..	1	720
	GRAND TOTAL ..	3	51,569	50	34,526	(*a*)920	2,82,562	(*b*)15	11,273

(*a*) Includes four laboratory assistants.
(*b*) Includes one superintendent and one electrician.

n the United Provinces during the year 1929-30 —(concluded).

iture.						Paid from—								
Peons.														
Number.	Pay.	Total pay of establishment.	Travelling allowance.	Contingencies.	Total cost.	Imperial funds.	Provincial funds.*	Local funds.†	Municipalities.	Native States.‡	Total.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff only.	Number.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		A. P.	
4	280	6,778	504	1,060	8,342	..	..	5,874	2,468	..	8,342	33,177	4 0	41
..	..	7,246	123	639	8,008	..	..	7,035	973	..	8,008	30,844	4 2	42
1	44	5,721	120	1,576	7,417	..	..	6,585	832	..	7,417	33,234	3 7	43
1	63	4,923	120	674	5,717	..	..	5,089	628	..	5,717	22,303	4 1	44
1	60	4,392	90	584	5,066	..	..	4,617	449	..	5,066	27,232	2 11	45
..	..	19,871	421	2,090	22,382	..	..	21,335	903	144	22,382	115,158	3 1	46
..	..	10,203	120	743	11,066	..	..	10,970	..	96	11,066	52,981	3 4	47
1	30	8,706	120	982	9,808	..	..	9,234	574	..	9,808	41,522	3 9	48
c) 32	7,136	3,33,313	9,987	88,158	4,31,458	..	48,864	3,20,706	58,259	3,629	4,31,458	1,442,532	(d) 4 3	
3	378	14,972	4,843	1,376	21,191	..	21,191	..	..	..	21,191	..	..	
3	378	23,310	2,758	1,182	27,250	..	27,250	..	..	..	27,250	..	..	
3	378	16,605	2,774	1,418	20,797	..	20,797	..	..	..	20,797	..	..	
) 1	8,270	3,88,200	20,362	92,134	5,00,696	..	1,18,102	3,20,706	58,259	3,629	5,00,696	1,442,532	(d) 4 3	

(c) Includes one mali.

(d) Calculated on the total number of successful vaccinations and re-vaccinations performed by the ecial department only and the total cost of districts excluding that of the Government Bovine Lymph Dépôt.

* Government.

† District Boards, Cantonments and Town and Notified Areas.

‡ Includes contributions from Court of Wards and private persons.

VACCINATION STATEMENT NO. III

Omitted.

COMPARATIVE VACCINATION STATEMENT NO. IV.—*Showing the number of persons primarily vaccinated and the number successfully vaccinated in the United Provinces in each of the undermentioned official years.*

Number.	Range.	Establishment.	Persons primarily vaccinated.					
			1920-21.		1921-22.		1922-23.	
			Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
	First Range.	MEERUT DIVISION.						
1		Government	39,200	38,222	30,083	29,188	31,407	30,449
2		Municipal	19,453	18,887	17,951	17,486	17,960	17,462
3		Local Funds	83,874	81,526	92,196	88,963	92,130	88,698
4		Native States ..	..	..	..	..	..	..
		AGRA DIVISION.						
5		Government.. ..	30,531	29,226	28,666	27,461	20,149	24,703
6		Municipal	19,632	18,419	15,364	14,150	16,907	15,755
7		Local Funds.. ..	61,597	58,509	68,797	65,179	70,384	66,775
8		Native States ..	1,645	1,606	2,289	2,248	2,235	2,148
		ROHILKHAND DIVISION.						
9		Government.. ..	51,549	47,763	45,960	43,072	40,055	37,248
10		Municipal	23,961	32,261	20,007	19,012	19,972	19,025
11		Local Funds.. ..	70,556	58,609	70,885	67,881	78,874	75,515
12		Native States ..	..	..	..	..	..	..
		GARHWAL DISTRICT.						
13		Government.. ..	4,282	4,141	2,117	2,050	1,529	1,439
14		Local Funds.. ..	9,134	8,958	9,404	9,150	9,194	8,969
		Total of First Range ..	415,414	398,127	403,719	385,840	406,796	388,186
	Second Range.	NAINI TAL AND ALMORA DISTRICTS.						
15		Government	7,461	7,135	5,707	5,449	5,463	5,210
16		Municipal	845	834	1,131	1,112	1,043	1,021
17		Local Funds.. ..	15,066	14,659	14,692	13,828	15,000	14,067
18		Native States ..	..	..	..	..	..	..
		LUCKNOW DIVISION.						
19		Government.. ..	47,816	45,730	36,493	35,300	32,745	31,695
20		Municipal	15,999	15,302	14,713	14,064	14,593	13,903
21		Local Funds.. ..	56,819	55,539	54,740	53,851	61,513	60,102
22		Native States ..	25,657	24,972	20,769	20,338	23,418	22,952
		FYZABAD DIVISION.						
23		Government	61,728	60,343	51,236	50,198	52,555	51,346
24		Municipal	8,950	8,721	7,845	7,663	7,960	7,673
25		Local Funds.. ..	84,363	82,992	82,263	81,005	84,821	83,408
26		Native States ..	2,328	2,299	2,749	2,691	3,737	3,662
		Total of Second Range ..	327,032	318,526	292,338	285,499	302,848	295,039

COMPARATIVE VACCINATION STATEMENT NO. IV.—*Showing the number of per*
Provinces in each of the undermentioned

Number.	Range.	Establishment.	Persons 1923-24. Total number.	1923-24. Number successfully vaccinated.	1924-25. Total number.	1924-25. Number successfully vaccinated.	1925-26. Total number.	1925-26. Number successfully vaccinated.
		MEERUT DIVISION.						
1	First Range.	Government	25,965	24,857	*	*	*	*
2		Municipal	17,393	15,914	14,690	13,786	13,053	11,725
3		Local Funds	102,053	94,618	133,321	127,698	134,785	127,681
4		Native States ..	..	..	..	..	..	..
		AGRA DIVISION.						
5		Government	25,408	23,328	*	*	*	*
6		Municipal .. .	16,568	14,723	18,063	16,321	18,841	16,628
7		Local Funds	75,869	68,467	102,730	96,315	105,148	95,871
8		Native States ..	1,691	1,617	1,917	1,874	1,451	1,390
		ROHILKHAND DIVISION.						
9		Government	40,697	36,355	*	*	*	*
10		Municipal	22,914	(a)20,641	26,443	24,583	26,404	24,195
11		Local Funds	89,952	81,640	128,894	120,007	139,757	127,558
12		Native States ..	..	..	..	..	..	..
		GARHWAL DISTRICT.						
13		Government	1,743	1,710	*	*	*	*
14		Local Funds	9,433	9,018	14,767	14,439	17,483	16,872
		Total of First Range ..	428,840	392,888	440,825	415,023	456,922	421,920
		NAINI TAL AND ALMORA DISTRICTS.						
15	Second Range.	Government	5,097	4,758	*	*	*	*
16		Municipal	1,005	979	1,398	1,335	1,392	1,346
17		Local Funds	19,974	18,378	26,873	25,525	27,101	25,185
18		Native States ..	..	..	..	..	..	..
		LUCKNOW DIVISION.						
19		Government	31,054	29,298	*	*	*	*
20		Municipal	14,548	13,775	13,717	13,037	13,517	11,864
21		Local Funds.. ..	64,758	61,806	96,237	94,070	106,690	102,737
22		Native States ..	23,432	22,755	19,804	19,525	17,899	17,516
		FYZABAD DIVISION.						
23		Government	48,712	46,340	*	*	*	*
24		Municipal	8,758	8,333	8,429	7,965	7,969	7,257
25		Local Funds	96,042	92,243	144,825	140,858	154,523	148,470
26		Native States ..	4,128	4,088	3,911	3,812	2,843	2,792
		Total of Second Range ..	317,508	302,753	315,194	306,127	331,934	317,167

(*a*) The total of these figures should be taken as 152,717 and not 153,563 as the Civil Surgeon, Bijnor, omitted to exclude 846 secondary operations in the district return

NOTE.—*Vaccinations performed by vaccinators appointed before November 27, 1906, which have hitherto been shown against Government, have been included in the work done by Local Fund vaccinators, as Government does not pay any portion of the pay of assistant superintendents of vaccination and vaccinators.

sons primarily vaccinated and the number successfully vaccinated in the United official years—(continued).

primarily vaccinated.

1926-27.		1927-28.		1928-29.		1929-30.	
Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
*	*	*	*	*	*	*	*
15,500	14,342	16,167	15,068	19,994	18,416	15,083	13,858
124,418	118,259	131,635	122,958	134,414	127,729	145,681	137,425
..	..	..	..	..	..	..	..
*	*	*	*	*	*	*	*
17,747	16,180	18,480	16,767	20,667	18,848	19,254	17,030
103,500	97,172	109,883	99,409	112,286	104,294	117,300	107,130
1,308	1,299	1,420	1,404	1,627	1,614	..	..
*	*	*	*	*	*	*	*
25,470	23,835	21,193	19,813	21,656	19,908	23,035	20,780
137,910	125,556	136,980	127,647	141,239	130,432	144,826	135,396
..	..	..	..	..	..	..	..
*	*	*	*	*	*	*	*
15,835	15,592	15,164	14,802	17,036	16,679	19,351	19,079
441,688	412,235	450,922	417,868	468,919	437,920	484,530	450,698
*	*	*	*	*	*	*	*
1,432	1,355	941	901	1,100	989	841	802
24,847	23,121	26,862	24,745	29,467	27,237	30,112	28,531
..	..	..	..	..	..	..	..
*	*	*	*	*	*	*	*
12,249	11,248	13,341	12,203	12,899	11,729	11,478	10,448
110,278	107,145	123,639	117,353	137,885	131,819	146,941	141,693
13,949	13,591	12,931	12,397	11,774	11,411	7,469	7,305
*	*	*	*	*	*	*	*
8,067	7,192	8,714	7,978	7,697	7,110	6,056	5,738
164,140	155,637	173,170	165,310	185,874	177,705	189,845	182,644
6,246	5,664	..	..	..	..	..	..
341,208	324,953	359,598	340,887	386,696	368,000	392,742	377,161

NOTE —*Vaccinations performed by vaccinators appointed before November 27, 1906, which have hitherto been shown against Government, have been included in the work done by Local Fund vaccinators as Government does not pay any portion of the pay of assistant superintendents of vaccination and vaccinators.

COMPARATIVE VACCINATION STATEMENT NO. IV.—*Showing the number of persons Provinces in each of the undermentioned*

Person

Number.	Range.	Establishment.	1920 21. Total number.	1920 21. Number successfully vaccinated.	1921-22. Total number.	1921-22. Number successfully vaccinated.	1922-23. Total number.	1922-23. Number successfully vaccinated.
		ALLAHABAD DIVISION.						
27	Third Range.	Government	34,362	33,277	30,283	29,254	24,389	23,657
28		Municipal	14,613	13,732	14,317	13,588	14,329	13,547
29		Local Funds	73,139	70,430	65,604	63,574	72,428	69,897
30		Native States ..	1,894	1,817	1,524	1,464	..	..
		JHANSI DIVISION.						
31		Government	21,527	20,854	22,182	21,610	19,277	18,837
32		Municipal	5,946	5,821	6,016	5,844	5,749	5,555
33		Local Funds	31,204	30,092	34,524	33,000	38,581	37,659
34		Native States ..	1,774	1,722	2,229	2,165	2,196	2,143
		BENARES DIVISION.						
35		Government	56,530	56,367	42,327	41,873	38,861	38,357
36		Municipal	12,091	11,902	10,915	10,677	11,215	11,031
37		Local Funds	59,918	59,509	62,409	61,944	61,769	61,064
38		Native States ..	6,201	6,173	2,621	2,605	2,606	2,551
		GORAKHPUR DIVISION.						
39		Government	81,219	78,110	62,779	59,874	59,729	57,077
40		Municipal	4,061	3,877	2,760	2,609	2,185	2,095
41		Local Funds.. ..	96,588	93,525	84,339	81,325	93,453	89,673
42		Native States ..	4,175	3,457	3,512	3,191	4,538	3,210
		Total of Third Range ..	505,242	490,665	448,341	434,597	451,305	436,353
		Total of all Ranges ..	1,247,688	1,207,318	1,144,398	1,105,936	1,160,949	1,119,578
		Total of Dispensaries ..	121	114	161	142	300	271
		GRAND TOTAL ..	(b) 1,247,834	(c) 1,207,457	1,144,559	1,106,079	1,161,249	1,119,849

(b) Includes 25 persons vaccinated by other agencies.
(c) ,, 25 ,, successfully vaccinated by other agencies.

primarily vaccinated and the number successfully vaccinated in the United official years—(continued).

primarily vaccinated.

1923-24.		1924-25.		1925-26.		1926-27.	
Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
22,265	21,137	*	*	*	*	*	*
14,107	13,289	15,799	14,539	17,212	15,060	17,470	15,199
78,834	71,527	103,821	99,945	107,413	101,209	110,692	105,376
..	..	..	..	..	..	..	..
20,566	19,918	*	*	*	*	*	*
5,817	5,622	6,327	6,142	6,658	6,231	7,083	6,640
36,644	35,040	57,778	56,486	56,786	54,265	58,781	56,749
2,422	2,273	2,583	2,520	2,657	2,567	2,658	2,611
30,826	29,628	*	*	*	*	*	*
11,344	10,865	11,101	10,773	12,030	10,561	12,144	11,280
68,856	66,745	96,280	95,037	110,049	108,754	116,771	114,191
2,637	2,569	2,005	1,974	1,485	1,454	..	..
57,106	52,399	*	*	*	*	*	*
2,589	2,471	2,565	2,432	2,174	1,887	2,391	2,316
103,667	95,017	163,488	155,217	171,899	163,278	172,777	164,277
4,536	3,282	4,031	3,439	4,096	3,625	3,818	3,700
462,216	431,782	465,778	448,504	492,459	468,891	504,585	482,339
1,208,564	1,127,423	1,221,797	1,169,654	1,281,315	1,207,978	1,287,481	1,219,527
215	179	216	212	304	295	552	452
1,208,779	(d) 1,127,602	1,222,013	(e) 1,169,866	1,281,619	(f) 1,208,278	1,288,033	(g) 1,219,979

(*d*) In addition, 336 successful primary operations were performed by military medical officers in cantonments.

(*e*) In addition, 236 successful primary operations were performed by military medical officers in cantonments.

(*f*) In addition, 326 successful primary operations were performed by military medical officers in cantonments.

(*g*) In addition, 426† successful primary operations were performed by military medical officers in cantonments.

NOTE.—* Vaccinations performed by vaccinators appointed before November 27, 1906, which have hitherto been shown against Government, have been included in the work done by Local Fund vaccinators, as Government does not pay any portion of the pay of assistant superintendents of vaccination and vaccinators.

†This figure refers to the calendar year.

COMPARATIVE VACCINATION STATEMENT NO. IV.—*Showing the number of persons primarily vaccinated and the number successfully vaccinated in the United Provinces in each of the undermentioned official years*—(concluded).

Number.	Range.	Establishment.	Persons primarily vaccinated.					
			1927-28.		1928-29.		1929-30.	
			Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
		ALLAHABAD DIVISION.						
27	Third Range.	Government	*	*	*	*	*	*
28		Municipal	17,859	15,992	19,912	16,877	18,811	16,312
29		Local Funds	112,935	106,987	115,946	110,567	120,386	113,766
30		Native States	..	..	..	..	..	..
		JHANSI DIVISION.						
31		Government	*	*	*	*	*	*
32		Municipal	6,728	6,504	7,183	6,923	7,170	6,798
33		Local Funds	62,705	61,008	62,322	60,506	60,989	58,604
34		Native States	2,706	2,592	2,815	2,677	3,199	2,944
		BENARES DIVISION.						
35		Government	*	*	*	*	*	*
36		Municipal	11,303	10,551	11,854	11,406	11,647	11,217
37		Local Funds	121,766	117,159	126,257	123,012	131,746	129,026
38		Native States	..	..	..	..	..	..
		GORAKHPUR DIVISION.						
39		Government	*	*	*	*	*	*
40		Municipal	2,669	2,538	2,607	2,350	2,602	2,407
41		Local Funds	208,004	197,423	207,990	199,189	210,089	201,728
42		Native States	3,206	2,816	3,240	3,122	3,407	3,281
		Total of Third Range ..	549,881	523,570	560,126	536,629	570,046	546,083
		Total of all Ranges ..	1,360,401	1,282,325	1,415,741	1,342,549	1,447,318	1,373,942
		Total of Dispensaries ..	193	180	185	167	528	430
		GRAND TOTAL ..	1,360,594	(h) 1,282,505	1,415,926	(i) 1,342,716	1,447,846	(j) 1,374,372

(*h*) In addition, 1,055† successful primary operations were performed by military medical officers in cantonments.

(*i*) In addition, 820† successful primary operations were performed by military medical officers in cantonments.

(*j*) In addition 164† successful primary operations were performed by military medical officers in cantonments.

NOTE.—*Vaccinations performed by vaccinators appointed before November 27, 1906, which have hitherto been shown against Government, have been included in the work done by Local Fund vaccinators, as Government does not pay any portion of the pay of assistant superintendents of vaccination and vaccinators.

† These figures refer to the calendar years.

VACCINATION STATEMENT NO. V.—*Showing the particulars of vaccination verified by Inspecting officers in the United Provinces during the year* 1929-30.

Number.	Ranges and districts.		Total number of persons vaccinated.		Total number inspected. By Assistant Directors of Public Health or District Superintendents of Vaccination.	
			Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
1	First Range	Dehra Dun	5,873	9,671	..	..
2		Saharanpur ..	36,356	5,372	..	..
3		Muzaffarnagar ..	30,780	1,296	2,614	105
4		Meerut	47,867	12,890	2,665	44
5		Bulandshahr ..	39,888	4,942	4,284	485
6		Aligarh	35,425	6,461	1,493	..
7		Muttra	21,023	11,761	4,589	533
8		Agra	34,818	9,250	2,667	..
9		Mainpuri	18,451	1,061	1,051	..
10		Etah	26,837	4,237	2,446	..
11		Bareilly	30,836	5,279	1,460	..
12		Bijnor	23,615	1,122	623	..
13		Budaun	31,453	7,817	2,679	71
14		Moradabad	45,947	2,541	11,314	165
15		Shahjahanpur ..	21,236	899	615	..
16		Pilibhit	14,774	1,229	1,426	34
17		Garhwal	19,351	13,054	..	..
18	Second Range.	Naini Tal	8,302	7,936	391	92
19		Almora	22,651	16,389	232	33
20		Lucknow	22,830	3,904	5,759	..
21		Unao	24,680	507	7,786	51
22		Rae Bareli	33,449	65	6,704	..
23		Sitapur	31,804	581	6,162	..
24		Hardoi	29,418	105	11,215	16
25		Kheri	23,707	841	10,194	26
26		Fyzabad	31,860	1,489	8,755	49
27		Gonda	38,202	1,006	6,084	..
28		Bahraich	37,588	1,584	6,722	8
29		Sultanpur	36,510	209	8,197	..
30		Partabgarh ..	24,214	1,162	7,995	92
31		Bara Banki ..	27,527	216	3,157	..
32	Third Range.	Farrukhabad ..	25,388	2,239	76	..
33		Etawah	21,622	3,758	1,019	22
34		Cawnpore	36,287	7,963	..	..
35		Fatehpur	17,830	539	4,696	114
36		Allahabad	38,070	1,402	2,822	..
37		Jhansi	22,601	2,618	1,043	9
38		Jalaun	15,110	2,079	2,868	213
39		Hamirpur	17,079	1,735	857	2
40		Banda	16,568	262	155	..
41		Benares	32,505	2,767	7,929	197
42		Mirzapur	29,808	1,899	2,273	38
43		Jaunpur	32,752	1,718	12,695	126
44		Ghazipur	21,397	2,198	7,499	30
45		Ballia	26,931	849	4,496	1
46		Gorakhpur	120,398	1,822	13,078	132
47		Basti	54,000	574	9,226	..
48		Azamgarh	41,700	1,507	8,091	1
	Total for the province ..		1,447,318	170,805	208,102	2,689

VACCINATION STATEMENT NO. V.—*Showing the particulars of vaccination verified*

Number.	Ranges and districts.		Total number inspected— By Assistant Superintendents of Vaccination or other Inspecting Officers. Primary.	Re-vaccinations.	Percentage of number By Assistant Directors of Public Health or District Superintendents of Vaccination. Primary.	Re-vaccinations.
1	First Range	Dehra Dun	3,404	1,585	..	..
2		Saharanpur ..	14,174	796	..	..
3		Muzaffarnagar ..	16,240	338	8·49	8·10
4		Meerut	9,989	1,046	5·57	·34
5		Bulandshahr ..	10,455	765	10·74	9·81
6		Aligarh	5,494	189	4·21	..
7		Muttra	9,391	3,028	21·83	4·53
8		Agra	18,824	4,934	7·66	..
9		Mainpuri	6,513	489	5·70	..
10		Etah	14,448	1,765	9·11	..
11		Bareilly	20,522	4,101	4·73	..
12		Bijnor	10,834	227	2·64	..
13		Budaun	15,482	1,130	8·52	·91
14		Moradabad	13,090	685	24·62	6·49
15		Shahjahanpur ..	10,475	170	2·90	..
16		Pilibhit	8,109	188	9·65	2·77
17		Garhwal	10,215	8,981	..	..
18	Second Range.	Naini Tal	6,120	2,720	4·71	1·16
19		Almora	17,341	14,743	1·02	·20
20		Lucknow	10,535	365	25·22	..
21		Unao	9,257	156	31·55	10·06
22		Rae Bareli	13,410	2	20·04	..
23		Sitapur	9,627	2	19·37	..
24		Hardoi	12,656	43	38·12	15·24
25		Kheri	7,038	87	43·00	3·09
26		Fyzabad	11,291	210	27·48	3·29
27		Gonda	15,156	4	15·92	..
28		Bahraich	14,199	307	17·88	·50
29		Sultanpur	16,896	8	22·45	..
30		Partabgarh ..	16,301	535	33·02	7·92
31		Bara Banki ..	10,949	..	11·47	..
32	Third Range.	Farrukhabad ..	11,524	872	·29	..
33		Etawah	13,947	604	4·71	·58
34		Cawnpore	14,352	217	..	..
35		Fatehpur	6,214	79	26·34	21·15
36		Allahabad	13,419	23	7·41	..
37		Jhansi	14,698	585	4·61	·34
38		Jalaun	8,273	725	18·98	10·24
39		Hamirpur	7,059	251	5·02	·11
40		Banda	14,447	18	·93	..
41		Benares	13,766	475	24·39	7·11
42		Mirzapur	14,108	184	7·62	2·00
43		Jaunpur	12,587	92	38·76	7·33
44		Ghazipur	11,218	99	35·04	1·36
45		Ballia	13,541	62	16·69	·12
46		Gorakhpur	45,063	44	10·86	7·24
47		Basti	19,354	12	17·08	..
48		Azamgarh	10,681	349	19·40	·07
	Total for the province	..	612,686	54,290	14·38	1·57

by Inspecting Officers in the United Provinces during the year 1929-30—(concld.).

INSPECTIONS TO TOTAL VACCINATED—		PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED—				Percentage of success reported by vaccinators.	
By Assistant Superintendents of Vaccination or other Inspecting Officers.		By Assistant Directors of Public Health or District Superintendents of Vaccination.		By Assistant Superintendents of Vaccination or other Inspecting Officers.			
Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
57·96	16·39	..	..	93·58	42·35	95·91	56·17
38·99	14·82	..	..	96·21	26·72	95·79	50·55
52·76	26·08	91·47	30·43	91·43	20·35	90·93	27·81
20·87	8·11	89·70	68·18	91·03	8·14	91·47	27·01
26·21	15·48	86·56	10·38	89·97	12·16	93·76	25·05
15·51	2·92	97·75	..	94·76	4·76	92·70	28·49
44·67	25·75	89·77	22·93	88·47	23·55	87·76	28·25
54·06	53·34	94·95	..	87·04	12·23	85·30	11·16
35·30	46·09	91·93	..	89·65	11·55	91·85	25·88
53·84	41·66	95·54	..	90·18	16·15	94·86	39·97
66·55	77·68	98·04	..	92·65	21·89	89·65	33·38
45·88	20·23	87·08	..	88·50	3·46	92·49	33·93
49·22	14·45	97·44	6·67	94·36	15·37	94·36	21·30
28·49	26·96	90·52	85·11	90·23	10·57	91·91	20·37
49·33	18·91	94·49	..	89·30	8·02	91·95	40·98
54·89	15·30	95·92	..	91·14	32·31	92·27	61·46
52·79	68·80	..	..	98·02	79·41	98·89	82·88
73·72	34·27	96·05	67·39	93·46	35·09	94·42	39·05
76·56	89·96	100·00	50·00	97·95	25·42	95·84	47·82
46·14	9·35	95·99	..	93·69	54·10	94·45	21·34
37·51	30·77	84·76	5·88	82·41	4·44	92·47	37·20
40·09	3·08	79·26	..	85·10	..	95·59	66·04
30·27	·34	92·53	..	95·84	..	97·31	52·69
43·02	40·95	90·24	25·00	90·27	16·22	95·84	31·07
29·69	10·34	92·10	81·25	94·33	46·75	96·37	51·27
35·44	14·10	90·27	86·67	87·11	85·27	91·17	68·02
39·67	·40	85·68	..	89·83	..	98·23	81·19
37·77	19·38	95·53	75·00	98·26	100·00	99·30	98·35
46·28	3·83	93·59	..	95·14	7·14	97·71	59·80
67·32	46·04	93·06	80·00	91·25	56·02	96·06	70·27
39·77	..	87·35	..	86·97	..	94·35	24·10
45·39	38·94	96·55	..	95·53	28·12	97·51	47·99
64·50	16·07	92·25	68·18	94·36	40·90	89·72	46·04
39·55	2·72	..	..	97·55	65·97	92·19	35·81
34·85	14·65	85·19	16·67	89·80	14·00	94·10	32·60
35·25	1·64	69·49	..	91·22	31·25	94·73	54·53
65·03	22·34	95·75	..	95·15	26·90	94·09	39·64
54·75	34·87	95·45	63·09	91·41	25·08	94·19	40·71
41·33	14·47	97·48	..	87·51	51·13	96·05	91·02
87·20	6·87	88·39	..	93·94	50·00	95·55	77·60
42·35	17·17	95·42	71·32	98·21	79·95	96·94	62·04
47·33	9·69	97·71	36·36	96·59	52·29	98·25	81·31
38·43	5·35	97·45	41·89	97·26	32·39	97·52	74·98
52·42	4·50	98·57	71·43	97·52	85·71	97·82	71·06
50·28	7·30	98·68	100·00	98·76	65·45	98·63	82·98
37·43	2·41	95·22	48·57	95·25	51·51	96·26	64·02
35·84	2·09	98·77	..	98·29	77·78	98·28	75·83
25·61	23·16	99·11	..	94·10	19·84	96·99	60·36
42·33	31·78	92·92	40·59	93·32	36·39	94·72	43·70

VACCINATION APPENDIX A.—*Showing the number and ratio of successful*
United Provinces for a

Number.	Division.	District.	1920-21. Successful primary vaccinations.	1920-21. Persons successfully vaccinated per 1,000 of population.	1920-21. Deaths from small-pox in 1921.	1920-21. Ratio of deaths from small-pox per 1,000 of population in 1921.	1921-22. Successful primary vaccinations.	1921-22. Persons successfully vaccinated per 1,000 of population.	1921-22. Deaths from small-pox in 1922.	1921-22. Ratio of deaths from small-pox per 1,000 of population in 1922.
1	MEERUT.	Dehra Dun ..	4,096	24·09	5	·02	4,438	24·14	..	..
2		Saharanpur ..	28,051	31·25	7	·01	27,873	31·24	4	..
3		Muzaffarnagar ..	25,218	31·22	1	..	25,052	31·59	..	..
4		Meerut ..	46,019	31·13	5	..	42,434	29·10	1	..
5		Bulandshahr ..	35,251	32·54	..	..	35,840	34·23	..	..
6	AGRA.	Aligarh ..	29,025	25·28	6	·01	29,139	28·12	2	..
7		Muttra ..	15,024	23·35	2	..	15,678	25·39	1	..
8		Agra ..	22,385	22·14	16	·02	23,191	25·32	1	..
9		Mainpuri ..	19,641	24·65	5	·01	18,096	24·22	..	..
10		Etah ..	21,685	25·34	4	..	22,934	28·27	4	..
11	ROHILKHAND.	Bareilly ..	25,006	28·67	12	·01	23,357	23·39	2	..
12		Bijnor ..	21,887	27·55	9	·01	18,753	25·63	4	..
13		Budaun ..	23,777	24·29	17	·02	23,310	27·09	8	·01
14		Moradabad ..	32,622	26·12	9	·01	27,279	22·85	3	..
15		Shahjahanpur ..	21,178	22·68	33	·04	20,073	24·15	1	..
16		Pilibhit ..	14,163	32·35	3	·01	14,193	35·39	2	..
17	ALLAHABAD.	Farrukhabad ..	24,867	29·11	2	..	19,164	23·36	..	..
18		Etawah ..	17,490	23·45	..	..	16,513	23·89	1	..
19		Cawnpore ..	34,074	33·04	24	·02	29,303	27·14	1	..
20		Fatehpur ..	13,794	20·99	..	..	13,748	21·47	1	..
21		Allahabad ..	29,031	20·03	224	·16	29,152	21·06	50	·04
22	JHANSI.	Jhansi ..	19,778	31·90	5	·01	20,530	34·95	..	..
23		Jalaun ..	11,967	32·00	10	·02	13,047	34·08	..	..
24		Hamirpur ..	12,247	31·14	..	..	13,839	33·38	1	..
25		Banda ..	14,497	23·73	10	·02	15,203	25·63	1	..
26	BENARES.	Benares ..	27,800	33·46	54	·06	25,380	29·40	6	·01
27		Mirzapur ..	23,958	33·39	92	·13	21,370	29·80	20	·03
28		Jaunpur ..	35,584	31·49	55	·05	35,545	31·49	10	·01
29		Ghazipur ..	22,199	27·15	95	·11	13,657	16·60	9	·01
30		Ballia ..	24,410	29·53	23	·03	21,147	25·85	1	..
31	GORAKHPUR.	Gorakhpur ..	83,929	26·33	96	·03	70,990	21·77	32	·01
32		Basti ..	52,544	29·51	54	·03	45,486	24·21	26	·01
33		Azamgarh ..	42,496	28·88	179	·12	30,523	20·19	5	..
34	KUMAUN.	Naini Tal ..	6,524	26·41	4	·01	6,126	27·18	12	·04
35		Almora ..	16,104	53·48	2	..	14,263	37·77	1	..
36		Garhwal ..	13,099	57·52	1	..	11,200	46·03	2	..
37	LUCKNOW.	Lucknow ..	15,834	20·86	6	·01	14,970	21·55	9	·01
38		Unao ..	22,469	24·90	3	..	20,049	24·59	..	..
39		Rae Bareli ..	19,193	18·95	13	·01	18,264	19·70	2	..
40		Sitapur ..	30,298	26·75	6	..	24,995	23·08	..	..
41		Hardoi ..	29,879	26·71	29	·03	24,968	23·04	..	..
42		Kheri ..	23,870	25·04	9	·01	20,307	22·38	..	..
43	FYZABAD.	Fyzabad ..	21,913	20·79	58	·05	17,568	15·74	1	..
44		Gonda ..	29,813	21·70	8	..	27,038	18·85	3	..
45		Bahraich ..	27,467	27·00	47	·04	24,368	23·14	4	..
46		Sultanpur ..	31,864	30·42	7	·01	32,310	30·11	2	..
47		Partabgarh ..	18,634	21·32	181	·21	17,858	21·41	8	·01
48		Bara Banki ..	24,664	22·80	·8	·01	22,415	21·77	1	..
		Total ..	1,207,318	27·18	1,439	·03	1,105,936	25·28	242	·01
		Total of Dispensary staff.	114	..	..	..	143	..	..	..
		GRAND TOTAL ..	*1,207,457	27·18	1,439	·03	1,106,079	25·28	242	·01

*Includes 25 vaccinations performed by other agencies.

vaccinations and number and ratio of deaths from small-pox in each district of the series of 10 years.

1922-23.				1923-24.				1924-25.			
Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1923.	Ratio of deaths from small-pox per 1,000 of population in 1923.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1924.	Ratio of deaths from small-pox per 1,000 of population in 1924.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1925.	Ratio of deaths from small-pox per 1,000 of population in 1925.
3,765	20·22	3	·01	4,005	26·43	17	·08	4,066	24·24	44	·21
29,938	32·73	15	·02	30,497	33·98	60	·06	31,494	35·01	100	·11
25,519	32·14	8	·01	26,597	33·56	54	·07	27,125	34·18	273	·34
41,771	28·06	18	·01	40,509	27·16	14	·01	44,300	29·94	413	·27
35,616	33·85	69	·06	33,781	31·95	11	·01	34,499	32·70	370	·35
30,017	28·88	59	·05	30,131	28·90	227	·21	31,160	30·32	991	·93
15,685	25·40	16	·02	15,837	25·65	64	·10	15,818	25 96	292	·47
24,003	26·23	52	·06	24,581	26·75	246	·27	27,250	29·79	428	·46
15,774	22·07	..	..	15,017	20·19	21	·03	15,348	20·82	362	·48
23,902	29·47	10	·01	22,569	27·89	19	·02	24,934	31·02	276	·33
23,620	23·58	10	·01	24,510	24·44	198	·19	24,564	24·80	121	·12
19,232	26·18	2	..	20,834	28·24	40	·05	21,064	28·[illegible]6	678	·91
25,739	26·47	4	..	23,060	23·85	36	·04	24,067	24·74	282	·29
29,049	24·29	19	·01	34,940	29·25	93	·08	37,655	31·51	816	·68
19,753	23·96	..	..	20,984	25·12	31	·04	22,400	27·00	163	·19
14,395	34·45	..	..	14,308	33·63	19	·04	14,830	34·81	98	·23
16,206	20·09	3	..	15,017	18·95	29	·03	18,870	22·56	84	·10
16,933	23·81	1	..	17,228	24·33	13	·02	17,415	24·58	63	·08
30,294	28·34	4	..	30,724	28·43	158	·14	31,267	29·78	147	·13
13,762	21·73	..	..	15,226	23·87	1	..	16,437	25·97	2	..
29,906	21·86	228	·16	27,758	20·44	221	·16	30,497	22·29	92	·06
20,671	34·95	2	..	19,770	33·04	24	·04	21,156	35·17	106	·17
12,547	33·25	..	..	13,136	34·09	4	·01	13,578	34·42	5	·01
13,690	34·11	1	..	14,686	35·11	..	..	14,820	35·46	23	·05
17 286	29·54	9	·01	15,261	26·31	10	·02	15,594	26·62	33	·05
21,128	24·22	7	·01	21,075	23·87	63	·07	22,002	24·87	67	·07
21,344	29·66	31	·04	22,271	30·87	25	·03	22,677	31·43	39	·05
35,962	31·87	17	·01	31,589	27·69	79	·07	28,978	25·48	87	·07
13,485	16·59	2	..	14,361	17·35	5	·01	14,161	17·07	46	·05
21,084	25·75	6	·01	20,511	25·37	6	·01	19,966	25·19	49	·06
73,462	22·64	14	..	74,590	22·97	296	·09	79,515	24·53	661	·20
50,252	26·69	1	..	51,221	27·11	62	·03	50,271	26·75	89	·05
28,341	18·64	12	·01	27,358	18·17	91	·06	31,302	20·65	132	·09
6,450	27·78	1	..	6,706	26·00	4	·01	7,672	35·21	207	·75
13,848	39·47	18	·03	17,409	41·53	18	·03	19,188	52·35	152	·28
10,408	40·90	..	..	10,728	37·91	16	·03	14,439	44·43	33	·07
15,634	22·48	15	·02	15,510	23·08	235	·32	15,372	24·51	513	·71
18,223	22·45	1	..	17,611	21·96	8	·01	18,734	22·99	116	·14
18,803	20·18	45	·05	13,799	14·74	29	·03	14,783	15·83	294	·31
28,691	26·38	2	..	30,686	28·19	46	·04	28,422	26·10	58	·05
25,243	23·31	7	·01	26,107	24·08	53	·05	26,603	24·55	174	·16
22,058	23·08	..	..	23,921	26·42	..	..	22,718	25·10	35	·04
20,499	18·49	3	..	22,708	19·56	17	·01	24,015	20·83	105	·09
27,292	18·77	3	..	28,025	19·45	9	·01	29,660	20·45	97	·06
28,090	27·23	3	..	32,889	31·31	21	·02	32,287	31·00	47	·04
32,704	32·60	4	..	33,086	32·97	3	..	29,835	29·72	57	·06
16,261	19·64	19	·02	16,835	19·89	5	..	16,571	19·53	44	·05
21,243	20·64	3	..	17,461	16·97	23	·02	20,267	19·70	9	·01
1,119,578	25·56	747	·02	1,127,423	25·57	2,724	·06	1,169,656	26·68	9,373	·21
271	..	..	..	179	..	..	..	212	..	..	..
1,119,849	25·56	747	·02	*1,127,602	25·57	2,724	·06	‡1 169,868	26·68	9,373	·21

* In addition 336 successful primary operations were performed by military medical officers in cantonments.

‡ In addition 236 successful primary operations were performed by military medical officers in cantonments.

VACCINATION APPENDIX A.—*Showing the number and ratio of successful*
United Provinces for a

Number.	Division.	District.	1925-26. Successful primary vaccinations.	1925-26. Persons successfully vaccinated per 1,000 of population.	1925-26. Deaths from small-pox in 1926.	1925-26. Ratio of deaths from small-pox per 1,000 of population in 1926.	1926-27. Successful primary vaccinations.	1926-27. Persons successfully vaccinated per 1,000 of population.	1926-27. Deaths from small-pox in 1927.	1926-27. Ratio of deaths from small-pox per 1,000 of population in 1927.
1	MEERUT.	Dehra Dun ..	4,091	33·20	28	·13	4,261	28·16	33	·15
2		Saharanpur ..	31,595	36·02	174	·18	32,224	37·30	143	·15
3		Muzaffarnagar ..	26,285	34·31	124	·16	23,500	30·27	29	·04
4		Meerut ..	43,008	32·23	339	·23	39,697	27·46	16	·01
5		Bulandshahr ..	34,427	32·78	780	·73	32,919	31·68	62	·06
6	AGRA.	Aligarh ..	31,592	32·10	281	·26	32,888	32·47	26	·02
7		Muttra ..	14,171	25·04	114	·18	14,269	23·82	65	·10
8		Agra	28,016	31·97	36	·04	28,482	31·20	28	·03
9		Mainpuri ..	15,197	21·20	112	·15	14,889	20·71	11	·01
10		Etah	24,913	31·51	103	·12	24,123	31·86	60	·07
11	ROHILKHAND.	Bareilly ..	25,594	26·55	165	·16	27,186	27·24	131	·13
12		Bijnor ..	21,871	30·17	432	·58	22,497	30·78	138	·19
13		Budaun ..	27,835	29·56	789	·81	24,800	26·13	71	·07
14		Moradabad ..	38,412	32·41	615	·51	37,900	32·24	63	·05
15		Shahjahanpur ..	23,406	29·54	113	·13	22,686	28·51	119	·14
16		Pilibhit ..	14,635	36·17	16	·04	14,322	33·95	7	·02
17	ALLAHABAD.	Farrukhabad ..	20,941	25·71	506	·59	20,168	24·19	15	·02
18		Etawah ..	17,526	25·48	221	·30	18,459	26·12	6	·01
19		Cawnpore ..	30,898	30·27	127	·11	32,275	31·07	38	·03
20		Fatehpur ..	16,834	26·97	67	·10	17,682	27·58	25	·04
21		Allahabad ..	30,070	21·71	327	·23	31,991	23·21	573	·41
22	JHANSI.	Jhansi ..	20,667	34·69	259	·43	20,912	36·09	24	·04
23		Jalaun ..	13,321	35·32	49	·12	13,636	35·60	3	·01
24		Hamirpur ..	13,925	36·00	102	·22	15,435	36·49	2	..
25		Banda ..	15,150	25·47	85	·14	16,017	27·94	73	·12
26	BENARES.	Benares ..	24,755	(a)28·69	677	·71	26,284	30·55	417	·44
27		Mirzapur ..	23,993	34·38	116	·16	25,862	39·75	486	·67
28		Jaunpur ..	29,525	25·91	257	·22	30,177	27·46	261	·22
29		Ghazipur ..	20,674	(b)25·47	290	·37	18,785	25·22	535	·68
30		Ballia ..	21,822	28·69	421	·51	24,363	30·12	221	·26
31	GORAKHPUR.	Gorakhpur ..	82,155	25·66	615	·19	83,052	25·77	1,204	·37
32		Basti ..	51,224	26·97	115	·06	51,266	27·06	342	·18
33		Azamgarh ..	35,411	23·80	396	·26	35,975	24·46	1,027	·67
34	KUMAUN.	Naini Tal ..	7,512	48·83	52	·19	7,477	40·41	14	·05
35		Almora ..	19,019	74·27	135	·25	16,999	51·62	47	·09
36		Garhwal ..	16 872	54·37	29	·06	15,592	53·61	39	·08
37	LUCKNOW.	Lucknow ..	17,961	27·91	341	·47	20,808	31·10	205	·28
38		Unao ..	19,501	24·00	126	·15	20,155	24·80	84	·10
39		Rae Bareli ..	15,781	17·04	334	·36	17,558	18·80	28	·03
40		Sitapur ..	29,361	27·37	71	·06	28,554	26·55	83	·08
41		Hardoi ..	26,499	25·18	327	·30	24,977	23·12	47	·04
42		Kheri ..	23,014	26·20	221	·24	19,932	22·65	50	·05
43	FYZABAD.	Fyzabad ..	24,632	21·97	501	·43	29,621	25·98	503	·43
44		Gonda ..	33,466	23·24	320	·22	33,836	23·70	80	·05
45		Bahraich ..	33,340	32·47	145	·14	33,502	32·88	207	·19
46		Sultanpur ..	28,461	28·74	160	·16	29,945	30·06	122	·12
47		Partabgarh ..	17,685	21·29	323	·38	20,076	24·31	106	·12
48		Bara Banki ..	20,935	20·47	84	·08	21,513	20·98	25	·02
		Total ..	1,207,978	28·59	12,020	·26	1,219,527	28·42	7,894	·17
		Total of Dispensary staff.	295	..	..	..	452	..	..	..
		GRAND TOTAL ..	†1,208,273	28·60	12,020	·26	*1,219,979	28·44	7,894	·17

* In addition 326 successful primary operations were performed by military medical officers in cantonments.

† In addition 426 successful primary operations were performed by military medical officers in cantonments.

(a) Rates calculated on average population 913,992
(b) Ditto ditto 819,609

accinations and number and ratio of deaths from small-pox in each district of the ries of 10 *years*—(concluded).

1927-28.				1928-29.				1929-30.	
Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1928.	Ratio of deaths from small-pox per 1,000 of population in 1928.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1929.	Ratio of deaths from small-pox per 1,000 of population in 1929.	Successful primary vaccinations	Persons successfully vaccinated per 1,000 of population.
4,378	34·28	58	·27	5,018	31·71	13	·06	5,570	56·41
33,630	38·70	13	·01	33,835	38·06	111	·12	34,828	39·91
25,893	32·72	65	·08	26,724	33·96	186	·23	28,428	36·23
39,854	27·57	101	·07	45,329	32·47	891	·59	44,550	31 94
34,271	32·56	64	·06	35,239	33·85	1,285	1·20	37,907	36·62
32,485	31·84	52	·05	34,311	35·01	654	·61	32,880	32·64
16,711	27·58	12	·02	19,449	32·93	728	1·17	18,858	35·02
28,911	31·79	100	·11	30,464	34·45	1,024	1·11	30,187	33·70
15,099	21·01	33	·04	15,753	21·72	189	·25	16,682	22·89
24,374	31·20	25	·03	24,779	31·32	1,122	1·35	25,553	32·79
26,654	26·63	4	..	27,369	27·35	185	·18	27,529	28·68
20,653	27·98	78	·10	21,392	29·08	1,061	1·43	22,054	30·26
26,898	28·14	10	·01	28,908	30·24	190	·19	30,077	32·48
37,904	31·85	3	..	38,893	32·79	694	·58	42,728	36·05
21,640	26·00	5	..	19,853	25·80	219	·26	19,883	24·11
13,711	32·50	1	..	13,925	32·53	89	·20	13,905	23·83
21,754	25·95	5	..	22,226	26·47	54	·06	24,863	30·28
18,42[illegible]	26·10	17	·02	19,282	27·32	131	·18	19,758	29·16
33,873	30·30	30	·03	34,371	33·21	195	·17	33,416	31·42
17,076	26·60	2	..	17,541	27·26	38	·06	16,408	25·40
31,854	23·07	203	·14	34,024	24·68	202	·14	35,633	25·87
21,712	36·48	20	·03	21,899	36·44	40	·06	21,564	37·13
14,022	35·82	3	·01	14,224	37·04	61	·15	14,278	37·14
17,111	44·59	..	..	17,302	39·32	1	..	16,427	38·66
17,259	29·76	8	·01	16,681	28·89	22	·04	16,077	27·67
30,028	32·60	61	·06	31,534	34·11	152	·16	31,577	34·85
25,759	39·98	155	·21	27,822	41·38	33	·04	29,308	42·59
29,647	27·46	216	·19	31,937	28·38	159	·14	31,996	28·77
18,295	26·10	203	·26	18,098	26·29	194	·25	20,827	28·54
23,981	29·61	102	·12	25,027	30·99	153	·18	26,535	32·77
113,487	35·06	207	·06	115,298	35·55	107	·03	114,151	35·25
50,840	26·62	24	·01	50,848	26·62	47	·02	52,570	27·52
38,450	25·61	600	·39	38,515	25·60	229	·15	40,695	27·17
7,182	27·69	4	·01	7,374	33·71	21	·07	7,957	37·59
18,464	47·22	43	·08	20,852	49·88	32	·06	21,376	52·45
14,802	56·13	43	·09	16,679	57·85	26	·05	19,079	60·26
20,209	29·35	184	·25	21,217	30·36	463	·64	21,812	21·25
21,584	26·54	8	·01	22 796	27·93	116	·14	23,460	28·83
20,309	21·70	18	·02	29,105	31·14	48	·05	31,691	33·88
29,581	27·31	20	·02	30,249	27·99	37	·03	30,967	28·69
27,109	25·06	17	·01	28,740	26·52	212	·19	28,646	26·44
23,161	25·83	7	·01	22,852	25·37	23	·02	22,870	25·45
28,956	25·73	67	·06	28,754	25·53	180	·15	29,503	26·01
34,062	23·42	7	..	37,794	25·89	16	·01	37,441	25·96
35,869	34·28	8	·01	36,628	35·41	3	..	37,227	36·39
31,179	31·24	10	·01	32,690	32·68	21	·02	35,405	35·39
21,672	25·98	84	·10	22 338	26·70	46	·05	22,937	27·68
21,550	20·98	9	·01	26,611	25·93	22	·02	25,869	25·16
282,325	29·45	3,012	·07	1,342,549	30·89	11,725	·26	1,373,942	31·79
180	..	..	..	167	..	..	..	430	..
282,505	29·46	3,012	·07	‡1,342,716	30·90	11,725	·26	*1,374,372	31·81

In addition 1,055 successful primary operations were performed by military medical officers in cantonments.
" 820 " " " " " " " " " " "
" 164 " " " " " " " " " " "

VACCINATION APPENDIX B.—*Showing the number of vaccinations performed in t municipal towns of the United Provinces on children under one year of a during the year* 1929-30.

Serial number.	District.	Municipality.	Number of births during 1929.	Number of deaths amongst children under one year during 1929.	Number of successful vaccinations on children under one year during the year ending March 31, 1930.	Date of extension Vaccination Act to the municipalit
1	2	3	4	5	6	7
1	Dehra Dun ..	Dehra Dun ..	1,321	283	585	May 14, 1891.
2		Mussoorie ..	173	29	145	Ditto.
3	Saharanpur ..	Saharanpur ..	3,505	1,192	1,492	April 28, 1892.
4		Hardwar Union ..	1,154	365	958	April 5, 1892.
5		Deoband ..	1,241	220	653	June 7, 1894.
6		Roorkee ..	571	150	282	August 7, 1891.
7	Muzaffarnagar ..	Muzaffarnagar ..	1,123	231	797	December 21, 1892.
8		Kairana ..	794	177	590	June 7, 1894.
9	Meerut ..	Meerut ..	3,175	734	2,098	March 12, 1891.
10		Ghaziabad ..	673	139	372	June 7, 1893.
11		Hapur ..	1,110	300	519	October 16, 1894.
12		Baraut ..	331	85	246	March 5, 1924.
13	Bulandshahr ..	Bulandshahr ..	1,045	280	457	July 16, 1891.
14		Khurja ..	1,445	383	868	June 28, 1894.
15		Sikandrabad ..	968	224	612	April 16, 1894.
16	Aligarh ..	Koil ..	3,028	894	1,589	November 24, 1891
17		Hathras ..	2,012	570	1,469	May 4, 1894.
18		Atrauli ..	682	178	566	December 21, 1892
19		Sikandra Rao ..	539	135	380	Ditto.
20	Muttra ..	Muttra ..	2,960	859	1,984	October 5, 1891.
21		Brindaban ..	630	161	413	August 6, 1891.
22	Agra ..	Agra ..	11,340	2,629	4,339	June 5, 1891.
23		Firozabad ..	904	191	679	Ditto.
24	Mainpuri ..	Mainpuri ..	243	34	249	June 15, 1891.
25	Etah ..	Etah ..	498	159	335	May 6, 1891.
26		Soron ..	705	181	401	Ditto.
27		Kasganj ..	1,073	196	709	Ditto.
28		Jalesar ..	646	183	413	Ditto.
29	Bareilly ..	Bareilly ..	4,952	770	3,107	August 17, 1891.
30	Bijnor ..	Bijnor ..	960	222	327	July 3, 1891.
31		Chandpur ..	686	159	407	July 6, 1891.
32		Dhampur ..	437	138	186	April 16, 1894.
33		Nagina ..	905	275	478	July 6, 1891.
34		Najibabad ..	985	300	646	Ditto.
35	Budaun ..	Budaun ..	2,123	591	1,305	July 29, 1892.
36		Ujhani ..	436	104	288	July 1, 1891.
37		Sahaswan ..	856	278	517	July 3, 1891.
38	Moradabad ..	Moradabad ..	5,012	1,134	3,236	December 19, 1892
39		Chandausi ..	1,266	351	708	March 9, 1893.
40		Amroha ..	2,380	531	907	Ditto
41		Sambhal ..	2,237	540	1,485	April 1, 1893.
42	Shahjahanpur ..	Shahjahanpur ..	3,045	671	1,221	September 14, 189
43		Tilhar ..	861	266	485	January 2, 1892.
44	Pilibhit ..	Pilibhit ..	1,762	477	922	July 9, 1891.
45		Bisalpur ..	508	129	202	April 25, 1892.
46	Farrukhabad ..	Farrukhabad cum-Fatehgarh.	2,650	791	1,113	June 5, 1891.
47		Kanauj ..	565	120	345	September 16, 192
48	Etawah ..	Etawah ..	2,405	798	1,437	November 15, 188
49	Cawnpore ..	Cawnpore ..	7,206	3,029	6,033	August 1, 1888, cember 11, 1888 August 7, 1891.
50	Fatehpur ..	Fatehpur ..	802	198	532	June 4, 1891.
51	Allahabad ..	Allahabad ..	6,743	1,745	3,325	May 2, 1891.

VACCINATION APPENDIX B.—*Showing the number of vaccinations performed in the municipal towns of the United Provinces on children under one year of age during the year* 1929-30—(concluded).

Serial number.	District.	Municipality.	Number of births during 1929.	Number of deaths amongst children under one year during 1929.	Number of successful vaccinations on children under one year during the year ending March 31, 1930.	Date of extension of Vaccination Act to the municipality.
1	2	3	4	5	6	7
52	Jhansi ..	Jhansi ..	3,320	961	1,716	July 1, 1891.
53		Mau ..	713	205	466	May 5, 1892.
54		Lalitpur ..	658	148	404	May 24, 1894.
55	Jalaun ..	Orai ..	534	86	417	July 22, 1891.
56		Kalpi ..	519	146	378	December 5, 1892.
57		Konch ..	734	156	566	May 14, 1891.
58	Banda ..	Banda ..	466	120	469	March 24, 1893.
59	Benares ..	Benares ..	10,311	3,242	3,143	April 10, 1891.
60	Mirzapur ..	Mirzapur-Bindhachal	2,593	566	1,819	October 9, 1891.
61	Jaunpur ..	Jaunpur ..	1,112	238	913	February 26, 1892.
62	Ghazipur ..	Ghazipur ..	761	161	466	May 4, 1893.
63	Ballia ..	Ballia ..	384	86	356	May 6, 1891.
64	Gorakhpur ..	Gorakhpur ..	2,505	600	1,183	January 18, 1893.
65	Azamgarh ..	Azamgarh ..	502	107	212	February 8, 1893.
66	Naini Tal ..	Naini Tal ..	265	55	83	June 1, 1891.
67		Kashipur ..	326	96	237	May 5, 1894.
68	Almora ..	Almora ..	264	47	128	March 9, 1893.
69	Lucknow ..	Lucknow ..	9,552	4,482	4,547	February 4, 1893.
70	Unao ..	Unao ..	417	130	203	March 13, 1890.
71	Rae Bareli ..	Rae Bareli ..	748	196	367	June 1, 1891.
72	Sitapur ..	Sitapur ..	892	260	496	July 27, 1891.
73		Khairabad ..	508	123	310	April 12, 1892.
74	Hardoi ..	Hardoi ..	422	116	196	March 26, 1891.
75		Shahabad ..	763	164	428	March 17, 1892.
76		Sandila ..	683	210	556	January 2, 1892.
77	Kheri ..	Lakhimpur ..	383	60	312	June 1, 1891.
78	Fyzabad ..	Fyzabad-Ajodhya ..	1,283	457	1,032	June 11, 1891.
79		Tanda ..	770	262	457	July 18, 1891.
80	Gonda ..	Gonda ..	427	85	332	June 25, 1891.
81		Balrampur ..	656	158	493	Ditto.
82	Bahraich ..	Bahraich ..	1,021	186	590	December 5, 1892.
83	Sultanpur ..	Sultanpur ..	267	83	192	November 11, 1884.
84	Partabgarh ..	Bela ..	216	33	262	June 1, 1891.
85	Bara Banki ..	Nawabganj ..	417	64	251	December 2, 1889.
		Total ..	139,063	38,868	77,392	